3/27/17

THE CONDOR

A Magazine of Western Ornithology

Volume XIX March-April, 1917 Number 2

COOPER ORNITHOLOGICAL CLUB

CONTENTS

Entered as second-class matter February, 1908, at the post-office at Los Angeles (Hollywood Station), California, under Act of Congress of March 3, 1879.

Issued from the Office of THE CONDOR, First National Bank Building, Hollywood, California

SEPARATES

Separates of articles in THE CONDOR will be furnished by THE NAGE PRINTING COMPANY, 171 W. Santa Clara St., San Jose, Calif., at the following uniform rates. All orders for separates must accompany manuscript when sent to the Editor of THE CONDOR, and be written plainly at the head of the article. No separates can be furnished gratis.

No. of Copies	2 pages	4 pages	8 pages	12 pages	16 pages	Cover and Title
25	$ .75	$1.25	$2.25	$3.50	$4.50	.75
50	1.00	1.50	2.50	4.00	5.00	1.00
75	1.15	1.75	2.75	4.50	5.50	1.25
100	1.25	2.00	3.00	5.00	6.00	1.50

THE·CONDOR
A·MAGAZINE·OF
WESTERN·ORNITHOLOGY·

Volume XIX March-April, 1917 Number 2

AN ANNOTATED LIST OF THE BIRDS OF FREMONT COUNTY, IDAHO, AS OBSERVED DURING THE SUMMER OF 1916

By HENRY J. RUST

WITH MAP AND TWELVE PHOTOS BY THE AUTHOR

FREMONT COUNTY, Idaho, lies south and east of the center of the state, and is almost entirely confined between 110° and 113° W. Longitude, and 44° and 45° N. Latitude. The northern boundary, between this county and Montana, lies along the crest of the Rocky Mountains; on the east the county extends to the Wyoming line. In recent years three counties have been created from the lower half of Fremont, cutting off a large portion of the great sage covered plain which extends across the state in its widest part. A little over one-third of the county is covered with foothills and mountains from 6,000 to 10,000 feet in altitude; the balance is mostly sage covered plains interspersed with rolling lava.

The main ridge of the Rocky Mountains throws off numerous spurs, which, with their laterals, extend to the edge of the sage plains, forming many canyons and several large valleys. The largest stands of timber occur on the north and east exposures of these ridges.

In the Hudsonian zone the characteristic trees are the Engelmann spruce (*Picea engelmanni*) and the Alpine or balsam fir (*Abies lasiocarpa*) with some scattered Douglas firs (*Pseudotsuga taxifolia*).

In the Canadian zone are Douglas fir and Lodgepole pine (*Pinus contorta*) with scattered Engelmann spruce and large groves of aspen which also extend well down into the Transition zone. The latter is covered to a great extent with sage brush (*Artemisia tridentata*).

Most of the streams have their sources near the heads of the canyons through which they flow, and they are lined with thickets of willow, red osier, choke cher-

ry, and aspen. These growths afford nesting sites for a large number of birds. Those of the larger streams that continue to flow any great distance through the sage plains have cut deep channels through the lava and do not water the region on either side.

Since the passage of the homestead laws permitting 320 acre claims throughout the arid regions, a greater portion of the sage covered plains have been taken up by settlers. While only a small part of the entire area is under cultivation at the present time, it is only a question of a few years when the sage brush will give place to grain fields, which will no doubt exert an influence towards a change in the avifauna.

My observations, from which the following list is compiled, date from June 7 to August 29, 1916. While the list does not include all the birds that occur in the region throughout the entire year, it contains a large majority of the species to be found during the summer months.

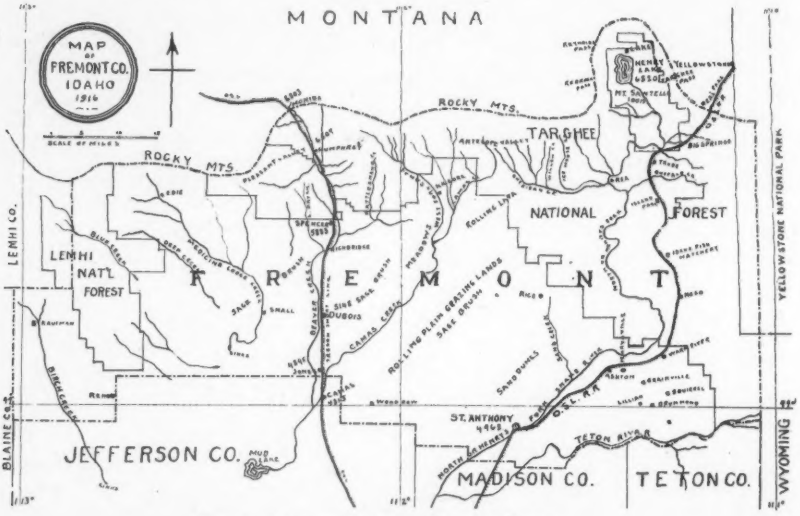


Fig. 7. Map of Fremont County, Idaho.

1. **Colymbus auritus?** Horned Grebe. A small grebe, which I took to be of this species, was seen on the outlet of Henry Lake, August 17. It disappeared below the surface of the water, permitting but a few seconds for identification.

2. **Gavia immer.** Common Loon. Occurs sparingly on Henry Lake. Several mounted specimens examined in a collection at Lake Post Office.

3. **Pelecanus erythrorhynchos.** White Pelican. Three birds seen flying near shore of Henry Lake. Mounted specimen examined in a collection at Lake Post Office.

4. **Mergus serrator.** Red-breasted Merganser. Occurs sparingly on Henry Lake.

5. **Anas platyrhynchos.** Mallard. A number of large flocks of mallards were seen just at dusk flying low over the small marshes along Ice House Creek, August 16. A female with four young able to fly seen on Ice House Creek, August 26. Quite a number were seen on the north fork of the Snake River, August 25.

6. **Mareca americana.** Baldpate. Several seen at Woods Reservoir on West Fork Camas Creek, July 17.

7. **Nettion carolinense.** Green-winged Teal. Fairly common along small streams, and occasionally seen in small overflow ponds. Also in numbers on Henry Lake.

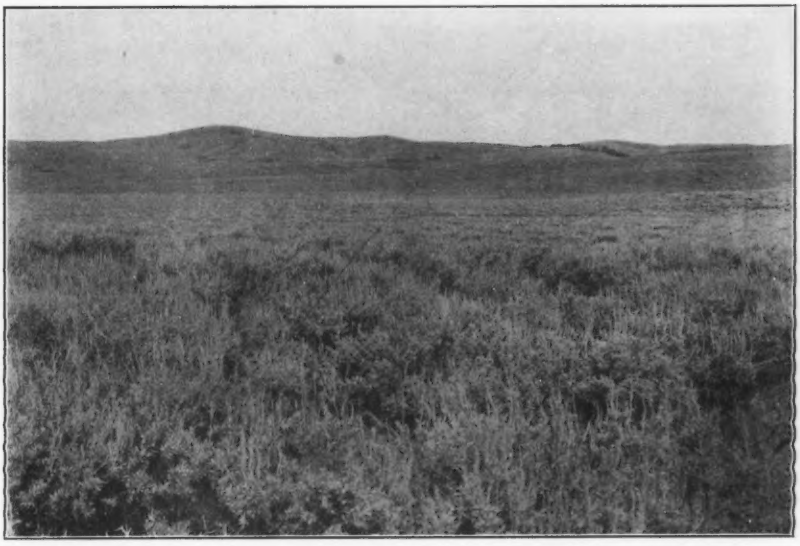


Fig. 8. Looking west from Spencer, Fremont County, Idaho; the beginning of the great sage plain; Upper Sonoran zone, merging into Transition in the far distance.

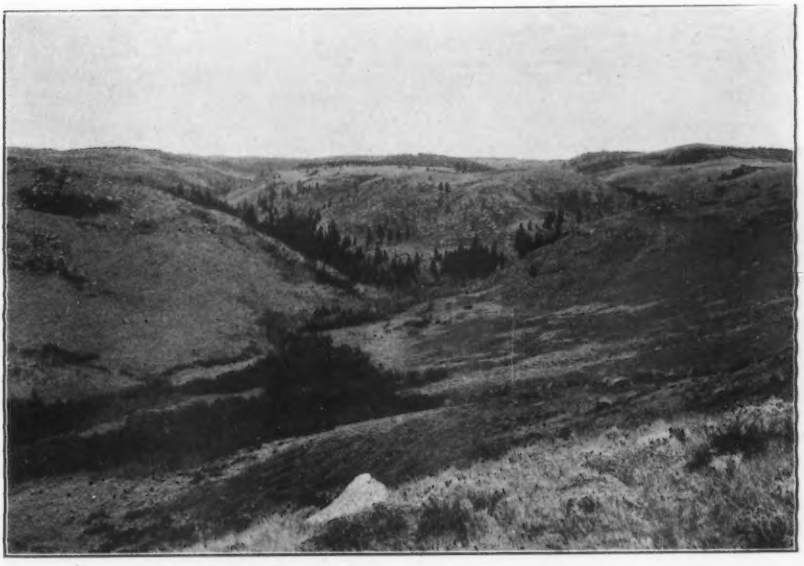


Fig. 9. The forks of Little Dry Creek, Idaho; in the Transition zone.

8. **Querquedula discors.** Blue-winged Teal. Several seen on a small storage pond on Ice House Creek, August 17.

9. **Olor buccinator.** Trumpeter Swan. Occurs sparingly on Henry Lake. Several mounted specimens examined in the collection at Lake Post Office, including a female with two young taken on the Lake.

10. **Ardea herodias herodias.** Great Blue Heron. Fairly common along marshes near North Fork of the Snake River. Five adults seen at one time on August 18. A young male about half grown was taken on Little Dry Creek, near Spencer, July 14.

11. **Porzana carolina.** Sora Rail. One specimen found dead floating on the water near the shore of Henry Lake, August 25.

12. **Fulica americana.** Coot. A small flock observed on a pond at Camas Meadows, near Kilgore, August 26.

13. **Recurvirostra americana.** Avocet. A flock of eight adults observed in a small shallow overflow pond near Small, June 20. The pond was only a short distance from a ranch house, and the birds were quite tame, allowing a close approach. They remained about the pond the entire day, probably to rest.

14. **Lobipes lobatus.** Northern Phalarope. Two seen in company with Avocets on a small pond near Small, June 20.

15. **Gallinago delicata.** Wilson Snipe. One seen in a small swampy meadow along Ice House Creek, and several seen at Camas Meadows, August 26.

16. **Ereunetes mauri.** Western Sandpiper. A small flock seen near the shore of Henry Lake, and also along an irrigation ditch near Spencer, August 27.

17. **Actitis macularia.** Spotted Sandpiper. Common along streams and ponds throughout the county. Young still in the downy stage seen at Woods Reservoir, on the West Fork of Camas Creek, July 16.

18. **Oxyechus vociferus.** Killdeer. Common along streams and ponds throughout the county.

19. **Dendragapus obscurus richardsoni.** Richardson Grouse. One male seen in Little Dry Creek Canyon, July 8. A female with three young was seen in the same canyon among Douglas firs, August 10.

20. **Bonasa umbellus togata.** Canada Ruffed Grouse. Two adult males seen on July 8 in Little Dry Creek Canyon, among Douglas firs near the creek. A female with about ten nearly grown young was flushed from a lodgepole pine thicket along the road near the North Fork of the Snake River, near Rea Post Office, on August 26.

21. **Pedioecetes phasianellus columbianus.** Columbian Sharp-tailed Grouse. Becoming very rare throughout the county. One small flock was observed on August 26, among sage brush, along the road near Kilgore.

22. **Centrocercus urophasianus.** Sage Grouse. Until recent years abundant throughout the county, now becoming very scarce.

A female with two young was seen on a high ridge, July 8, a female with four young at Burnside Ranch, July 10, a female with two young near Highbridge, August 10, three adult birds on a high ridge near Spencer, July 31, one adult near Sheridan Creek, August 17, and a flock of about six, two of which were secured, near Kilgore, August 26.

These are all the birds I saw during the three months spent in Fremont County. I found one deserted nest containing six eggs, July 9. It was a common sight to see parties of sportsmen hunting Sage Grouse over the plains in automobiles, and the ease and rapidity of this style of hunting will soon exterminate the species entirely.

23. **Zenaidura macroura carolinensis.** Mourning Dove. Found breeding in considerable numbers in willow thickets along small streams in the vicinity of Spencer, June 8. One nest with two eggs was found on the ground under sage brush, June 16. The majority of nests were from two to five feet from the ground in bent-over willows.

24. **Cathartes aura septentrionalis.** Turkey Vulture. Two seen July 31, near a high ridge at the head of Little Dry Creek Canyon.

25. **Circus hudsonius.** Marsh Hawk. Several seen July 18, along Camas Meadows near Kilgore.

26. **Accipiter velox.** Sharp-shinned Hawk. A pair observed a number of times during the latter part of June and during July, in a Douglas fir thicket in Little Dry Creek Canyon. They were probably nesting.

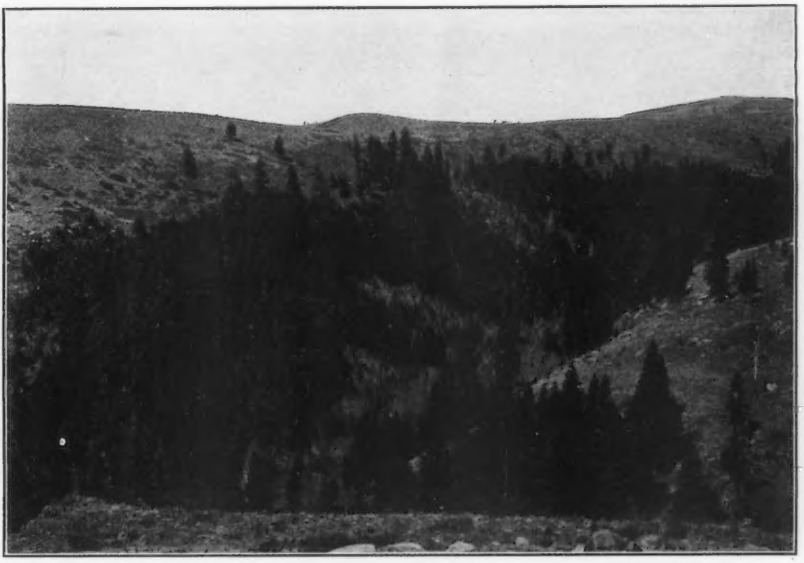


Fig. 10. Near head of Little Dry Creek canyon, Fremont County, Idaho; Douglas fir timber on slopes; beginning of Canadian zone, with Black-headed Jay, Canada Ruffed Grouse, Ruby-crowned Kinglet, and Rocky Mountain Hairy Woodpecker as characteristic birds.

Fig. 11. Portion of the Continental Divide, Rocky Mountains, about fifteen miles west from Humphrey, Idaho; the higher ridges are in the Hudsonian zone.

27. **Accipiter cooperi.** Cooper Hawk. Occurs sparingly throughout the county. One was seen near Spencer, July 18, and one near Small, August 11.

28. **Buteo borealis calurus.** Western Red-tail. One pair observed in Little Dry Creek Canyon, June 19. Probably nesting.

29. ***Buteo swainsoni.*** *Swainson Hawk. Fairly common throughout the county.* Seen most frequently along low foothills and over sage plains, early in the morning and late in afternoon, in search of small rodents.

On the first of August I found two dead weasels near the edge of a cultivated field on the Burnside Ranch, near Spencer. I had often seen Swainson Hawks circling low over the fields, and concluded that the weasels were killed by the hawks by mistake, as they probably would not be desirable as food.

Fig. 12. Nest and Eggs of Mountain Song Sparrow, in rose bush.

30. **Aquila chrysaëtos.** Golden Eagle. Occurs sparingly in the high mountains along the Continental Divide. Several mounted specimens examined in a collection at Lake Post Office.

31. **Falco sparverius phalaena.** Desert Sparrow Hawk. Fairly common throughout the county. A pair observed nesting near the top of a dead snag in Little Dry Creek Canyon, June 19, another pair in a cavity near the top of a cottonwood in Beaver Creek Canyon, June 26.

32. **Pandion haliaëtus carolinensis.** Osprey. Occurs sparingly along the North Fork of the Snake River, and about Henry Lake. One seen at Henry Lake on August 25.

33. **Asio wilsonianus.** Long-eared Owl. An adult bird was flushed from under a

large sage bush near Highbridge, June 26. It lit on a fence post, where it remained for some time.

34. ***Asio flammeus.*** *Short-eared Owl. A mounted specimen examined in a collection at Lake Post Office, which had been taken in the vicinity of Henry Lake.*

35. ***Cryptoglaux acadica acadica.*** Saw-whet Owl. A mounted specimen examined, in the above-mentioned collection, which had been taken in the vicinity of Henry Lake.

36. **Bubo virginianus pallescens.** Western Horned Owl. Occurs sparingly in heavily wooded canyons along the Continental Divide.

37. **Bubo virginianus subarcticus.** Arctic Horned Owl. A mounted specimen examined in the collection at Lake Post Office, which had been taken in the vicinity of Henry Lake.

Fig. 13. NEST AND EGGS OF THE SAGE THRASHER, IN SAGE BUSH.

38. **Glaucidium gnoma gnoma.** Pigmy Owl. A mounted specimen examined in the collection at Lake Post Office, which had been taken in the vicinity of Henry Lake.

39. **Ceryle alcyon.** Belted Kingfisher. Common along streams throughout the county. Observed in greatest numbers along the North Fork of the Snake River, on August 25.

40. **Dryobates villosus monticola.** Rocky Mountain Hairy Woodpecker. Fairly common in Douglas fir timber along ridges and at heads of canyons.

41. **Dryobates pubescens homorus.** Batchelder Woodpecker. Occurs sparingly in dense willow thickets along banks of streams, and in quaking aspen groves at low elevations.

42. **Colaptes cafer collaris.** Red-shafted Flicker. Fairly common throughout timbered portions of the county, and also seen in scattered cottonwood groves along the low foothills.

43. **Phalaenoptilus nuttalli nuttalli.** Poor-will. None seen, but one heard calling late in the evening of August 11, at the mouth of Little Dry Creek Canyon.

44. **Chordeiles virginianus henryi.** Western Nighthawk. Several noted on June 8 along open ridges of Little Dry Creek Canyon. They became fairly common by July 1; very few were seen after August 20.

45. **Selasphorus platycercus?** Broad-tailed Hummingbird. On July 9 one was seen several times in a willow thicket near the head of a small open canyon near Spencer.

Fig. 14. NEST AND EGGS OF GREEN-TAILED TOWHEE, BENEATH SAGE BUSH.

46. **Tyrannus verticalis.** Western Kingbird. Four seen near a ranch house a short distance from Henry Lake, August 25.

47. **Nuttallornis borealis.** Olive-sided Flycatcher. Occurs sparingly in the heavily wooded canyons. Observed July 9 in dense Douglas fir woods near the head of Little Dry Creek Canyon.

48. **Myiochanes richardsoni richardsoni.** Western Wood Pewee. One seen June 23 near a small grove of cottonwood trees on the Burnside Ranch near Spencer.

49. **Otocoris alpestris leucolaema.** Desert Horned Lark. Common throughout sage covered plains and valleys. Also frequently observed around cultivated fields near Small.

50. **Pica pica hudsonia.** Magpie. On June 5 and August 29 Magpies were noted commonly in Montana along the Oregon Short Line, nearly to Monida, Fremont County. I had expected to find them common in Fremont County, but not a single one was observed during the summer. I was told that they had been common in former years, and I found a number of old nests in willow thickets, near springs, but there were none of recent make.

51. **Cyanocitta stelleri annectens.** Black-headed Jay. Occurs sparingly in the heavily wooded canyons throughout the county.

52. **Corvus brachyrhynchos hesperis.** Western Crow. Not common. One seen along Little Dry Creek, near Spencer, July 15, and three near Kilgore, August 26.

Fig. 15. NEST AND EGGS OF BREWER SPARROW, IN SAGE BUSH, SHOWING DEEPLY CUPPED STRUCTURE.

53. **Nucifraga columbiana.** Clarke Nutcracker. Occurs sparingly in heavily wooded canyons throughout the county. A number of full grown young were seen in Little Dry Creek Canyon, June 18.

54. **Molothrus ater ater.** Cowbird. Two seen at a stock corral near Highbridge, June 26. Cowbird eggs were found in the following nests: Brewer Blackbird, one, with five eggs of the owner; White-crowned Sparrow, one, with a set of four; Sage Sparrow, two, with one of owner. In the last mentioned instance I removed the two Cowbird eggs, and the mother sparrow deserted her nest.

55. **Xanthocephalus xanthocephalus.** Yellow-headed Blackbird. Two seen near Kilgore, August 26, in company with a large flock of Redwings.

Fig. 16. NEST OF SAGE GROUSE, DESERTED, ON GROUND BENEATH SAGE BUSH.

Fig. 17. NEST OF SAGE SPARROW, IN SAGE BUSH, AND CONTAINING TWO EGGS OF THE COWBIRD.

56. **Agelaius phoeniceus fortis.** Thick-billed Redwing. Two pairs seen in tall grass along the edge of a small pond near Small, June 23. Several large flocks seen in marshes along Camas Creek, August 26.

57. **Sturnella neglecta.** Western Meadowlark. Fairly common throughout the sage plains and valleys. A few pairs were found nesting among sage brush along the edge of a cultivated field near Highbridge, June 26.

58. **Icterus bullocki.** Bullock Oriole. Male and female seen in willow and birch thicket along Little Dry Creek Canyon, July 29.

59. **Euphagus cyanocephalus.** Brewer Blackbird. A number of pairs found nesting in willows, rose bushes, service-berry bushes and sage brush, along Little Dry Creek, near Spencer, June 11 to 20. Nests were mostly at low elevations, one being found on the ground near a small irrigation ditch.

60. **Pinicola enucleator montana.** Rocky Mountain Pine Grosbeak. One specimen examined, in the collection at Lake Post Office. I was told they occur as winter visitors in the mountains around the Lake.

61. **Carpodacus cassini.** Cassin Purple Finch. A pair observed feeding on the ground at Burnside ranch, near Spencer, June 18. Also seen in timber near the headwaters of the West Fork of Camas Creek, July 16.

62. **Astragalinus tristis pallidus.** Western Goldfinch. Several pairs noted during July among the willows and in weed patches along Little Dry Creek, at the Burnside ranch.

63. **Spinus pinus.** Pine Siskin. A few seen in Douglas fir thickets near the head of Little Dry Creek Canyon, June 15.

64. **Passer domesticus.** English Sparrow. Fairly common in towns along the Oregon Short Line, where it was observed at Spencer and Dubois. Four pairs had taken up their residence on the Burnside ranch, three miles west from Spencer, where they were nesting in a cottonwood grove near the house. Two nests were large pendant affairs, about twenty feet up in the trees, woven of horse hair, dry grasses and sheep wool, and lined with chicken feathers. Another nest was built on forking branches next to the trunk, eight feet from the ground. One pair decided to occupy a newly completed nest of a Cliff Swallow under a gable of the house. A half day of watchful waiting and the swallows retired. The sparrows began carrying up straws, etc., for lining, but a few of their rude attempts at alighting on the rim of the frail structure brought it down. The same performance was repeated in another gable with the same results.

65. **Pooecetes gramineus confinis.** Western Vesper Sparrow. Fairly common on the sage covered plains. A nest with four eggs was found near Spencer, June 7, built at the base of a sage bush; another with five eggs near Highbridge, June 13, in a similar situation.

66. **Passerculus sandwichensis alaudinus.** Western Savannah Sparrow. Occurs sparingly in meadows throughout the county. Noted at Camas Meadows, July 16, and near Spencer, August 1.

67. **Zonotrichia leucophrys leucophrys.** White-crowned Sparrow. Several pairs noted in June along Little Dry Creek. A nest with five eggs, including one of the Cowbird, was found June 20, under a small bush near running water.

68. **Spizella passerina arizonae.** Western Chipping Sparrow. A pair seen in a Douglas fir thicket near the head of Little Dry Creek Canyon, June 11. Probably breeding.

69. **Spizella breweri.** Brewer Sparrow. The most common breeding bird of the sage brush. Earliest nesting date, June 16. Sets of three eggs most commonly found, though occasionally four are laid.

70. **Junco hyemalis connectens?** Intermediate Junco. Found commonly in lodgepole pine thickets near the North Fork of the Snake River, north of Rea, on August 25.

71. **Junco hyemalis mearnsi.** Pink-sided Junco. Several pairs noted in Douglas fir thickets near the head of Little Dry Creek Canyon, June 18. A nest containing partly feathered young was found July 8, placed under the projecting ledge of a large rock.

72. **Amphispiza nevadensis nevadensis.** Sage Sparrow. Fairly common throughout the sage plains. A nest containing one egg, with two of the Cowbird, was found near Spencer, July 7, placed in a low sage bush.

73. **Melospiza melodia montana.** Mountain Song Sparrow. Fairly common in willow thickets and marshy places along streams. A nest with four eggs was found near Spencer, June 13, placed in the crotch of a rose bush, a few inches above water.

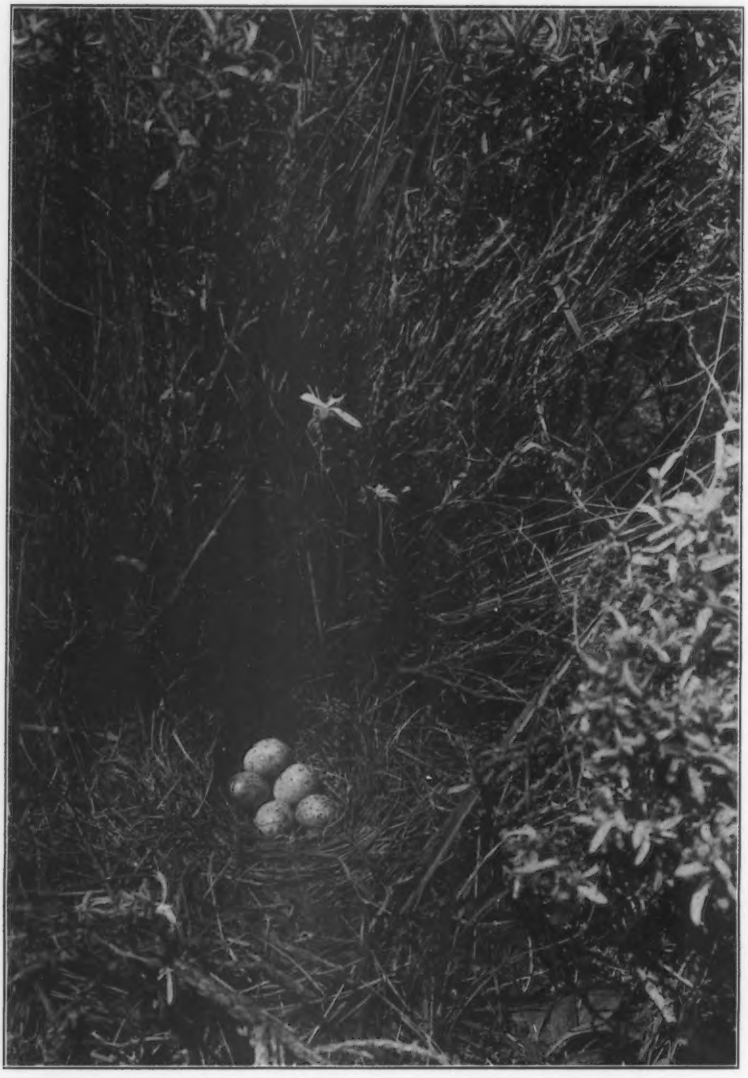


Fig. 18. Nest, Nesting Site, and Eggs of Western Vesper Sparrow.

74. **Melospiza lincolni lincolni.** Lincoln Sparrow. Occurs sparingly in willow thickets along streams, near the heads of canyons.

75. **Oreospiza chlorura.** Green-tailed Towhee. Common on brushy hillsides, and often seen on open ridges. Two nests were found near Spencer, June 23, composed of sage twigs and bark, lined with fine dry grass, and placed low in sage bushes. One, just completed, was in a small open draw, the other, containing three eggs, on a high ridge. The parent birds were very shy.

76. **Zamelodia melanocephala.** Black-headed Grosbeak. Occurs sparingly in thickets along streams. Several pairs, probably breeding, seen in Little Dry Creek Canyon, June 18.

77. **Passerina amoena.** Lazuli Bunting. One pair seen in a willow thicket along the creek in Little Dry Creek Canyon, June 18. Probably nesting.

78. **Piranga ludoviciana.** Western Tanager. Occurs sparingly in groves of quaking aspen, and in Douglas fir thickets in the canyons.

79. **Petrochelidon lunifrons lunifrons.** Cliff Swallow. Common throughout the county, nesting under eaves and on faces of rock cliffs. They leave during the last week in August.

80. **Hirundo erythrogaster.** Barn Swallow. A nest was found, built on a rafter in a barn on the Burnside ranch, near Spencer. On August 1 it contained three young able to fly, and one infertile egg.

81. **Tachycineta thalassina lepida.** Northern Violet-green Swallow. Observed in small numbers in open portion of Little Dry Creek Canyon during June and July.

82. **Riparia riparia.** Bank Swallow. A small colony was nesting in a high sand bank near the outlet of Henry Lake, August 17.

83. **Bombycilla cedrorum.** Cedar Waxwing. Several seen in thickets along Little Dry Creek the latter part of June.

84. **Lanius ludovicianus excubitorides.** White-rumped Shrike. A single bird seen August 16, perched on a fence post along the road, between Kilgore and Rea.

85. **Vireosylva gilva swainsoni.** Western Warbling Vireo. Fairly common in willow thickets and quaking aspen groves, along streams in the canyons.

86. **Lanivireo solitarius cassini.** Cassin Vireo. Common in willow thickets and quaking aspen groves. A nest with four fresh eggs was found July 6, in a small willow along Little Dry Creek.

87. **Dendroica aestiva aestiva.** Yellow Warbler. Common in thickets along streams. Two nests, each containing five eggs, found in rose bushes along Little Dry Creek, June 16.

88. **Dendroica auduboni auduboni.** Audubon Warbler. Common in Douglas fir thickets in the canyons.

89. **Oporornis tolmiei.** Tolmie Warbler. Occurs sparingly in willow thickets along streams. Parent birds with young were seen in willows along the West Fork of Camas Creek, July 16.

90. **Icteria virens longicauda.** Long-tailed Chat. Several seen in willows along Little Dry Creek on the Burnside ranch, near Spencer, July 15.

91. **Cinclus mexicanus unicolor.** Dipper. Female with three young able to fly, seen on logs crossing the West Fork of Camas Creek, July 16.

92. **Oreoscoptes montanus.** Sage Thrasher. Common throughout the sage covered plains, and also seen on low ridges. A nest with four eggs, placed in a sage bush on a low ridge, was found near Spencer, June 19.

93. **Dumetella carolinensis.** Catbird. Several pairs noted nesting in willow thickets along Little Dry Creek during the last week in June.

94. **Salpinctes obsoletus obsoletus.** Rock Wren. Several seen, on July 31, among large boulders along the ridges in Little Dry Creek Canyon.

95. **Troglodytes aedon parkmani.** Western House Wren. A pair was found nesting in an old building on the Burnside ranch, June 15. A nest containing young was found in a hole in a fence post, near the old buildings at Woods Reservoir, in the West Fork of Camas Creek, July 16.

96. **Penthestes atricapillus septentrionalis.** Long-tailed Chickadee. Fairly common in willow thickets and quaking aspen groves, where numerous nesting cavities were found in dead stubs.

97. **Penthestes gambeli gambeli.** Mountain Chickadee. Common in Douglas fir timber on high ridges and canyon sides.

98. **Regulus satrapa olivaceus.** Western Golden-crowned Kinglet. A few seen in Douglas fir and Engelmann spruce thickets near the head of Little Dry Creek Canyon, June 18.

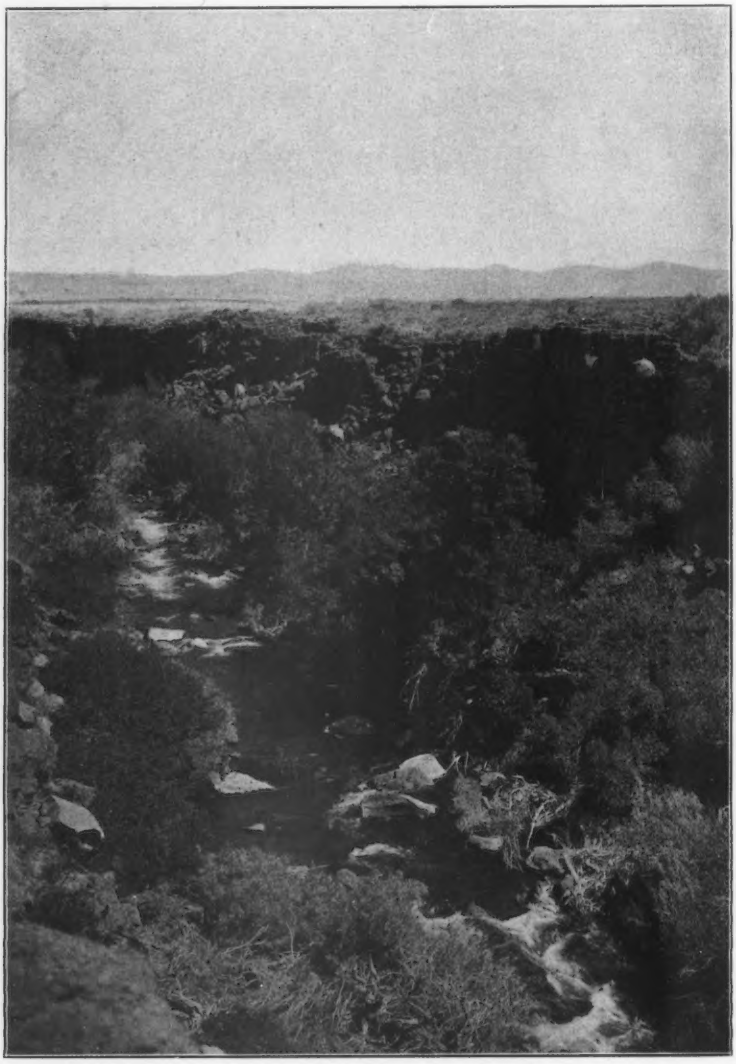


Fig. 19. BEAVER CREEK NEAR HIGH BRIDGE, IDAHO, SHOWING THE GENERAL CHARACTER OF STREAMS THAT FLOW THROUGH THE SAGE PLAINS.

99. **Regulus calendula calendula.** Ruby-crowned Kinglet. Fairly common in the Douglas fir and Engelmann spruce thickets in the canyons and on the wooded ridges.

100. **Hylocichla fuscescens salicicola.** Willow Thrush. Occurs sparingly in dense willow thickets in large open meadows. Noted at the outlet of Beaver Creek Canyon, June 25, and at Camas Meadows, July 16.

101. **Hylocichla guttata auduboni.** Audubon Hermit Thrush. Fairly common in willow thickets near heads of canyons. Noted at head of Little Dry Creek Canyon, June 18.

102. **Planesticus migratorius propinquus.** Western Robin. Common throughout the county, nesting in trees and bushes in the vicinity of ranch buildings, and in thickets along mountain streams. A nest with three eggs was found in a service-berry bush along Little Dry Creek, June 11; one with four eggs on a limb near the base of a cottonwood tree at the Burnside ranch, June 14.

103. **Sialia currucoides.** Mountain Bluebird. Occurs sparingly along foothills and in open canyons throughout the county. A nest containing three young able to fly was found in a hole in a fence post on the Burnside ranch, June 28.

Coeur d'Alene, Idaho, January 20, 1917.

SOME NOTES ON THE EFFECTS UPON BIRD LIFE, OF THE CORPUS CHRISTI STORM OF AUGUST 18, 1916

By R. A. SELL

BIRDS are governed by instinct. Their actions are so dependent upon instinctive tendencies that they are often unable to meet with success new and strange conditions. But is there any animal that does the best thing possible in a real emergency? How do horses and dogs behave at fires? Recall the peculiar things men and women do during storms and earth-quakes!

It seems to be the nature of birds to lose self-control quickly in emergency; yet there are some instances in which birds have been seen to act on the spur of the moment with such an insight and directness as could only be expected from animals that are rated much higher in the scale of intelligence. While the panic of a chicken flying and squawking along in front of a team of horses rather than turning to one side is proverbial, there are many instances of the same kind of fowls defending their young with tact and courage, besides the innumerable instances of wild birds staying with their nests or dropping into the water during fires.

Corpus Christi Bay is separated from the Gulf of Mexico by a chain of narrow sand-spits, and the passes connecting the two bodies of water are so shallow that it is necessary to keep a dredge at work continually in order to keep a channel open for the small boats that ply along the coast. Bird Island is a narrow sandy island so named because so many birds nest there that literally acres of eggs are to be found there during the laying season.

At Rockport there is a double row of posts, nearly a mile long, the remains of an old pier, and this was a favorite resort for pelicans. One observer reports seeing the entire line occupied by pelicans, a pelican to a post; in other words a double line of pelicans almost a mile long. At times these ungainly birds could be seen swinging themselves through the air and then awkwardly plunging down into the water only to flop out again with the fish, for they seldom miss.

The first indication of the storm here of interest was a stiff north wind and an ashen sky. *There was no calm immediately preceding the storm, but*

there was something ominous and threatening about that steady breeze. A long time before people became uneasy the birds seemed convinced that a storm was coming. The gulls and terns flew high and circled screaming along the beach; the great cranes flew from one side of the bay to the other; while the herons, curlews and killdeers kept flying short distances and lighting only to fly again first in one direction and then in another.

The storm struck the coast from a northwesterly direction and blew with such a uniform force that the water was driven away from Rockport. Many fish were left floundering on the sandy bottom, and some courageous people went out and gathered what they wanted of the choicest speckled trout, red fish, sheep-head, red snappers, etc. But the pelicans showed no desire to fish. They flew about in wild confusion first to the shores, then across the foaming waves into the very teeth of the storm. When there were literally miles of bare beach where there had always been water, the birds became even more panic stricken than they were before. Sometimes they would huddle together on the beach, but only for a minute. Then with piercing shrieks they would scatter, some waddling or half-flying up and down the beach, others trying to fly against the wind, while some even braved the foaming waves.

As the storm increased, the pelicans were simply blown about like the materials from a refreshment stand when boxes of rolled oats and packages of Uneeda biscuits chased one another towards the water. When thoroughly exhausted a pelican would sometimes spread itself out and lie flat on the sand with its head towards the wind. While those on the shore were buffeted about at a terrible rate, those in the water fared even worse. The waves rolled so fast and with such irresistible force that the great birds, which are ordinarily so sure of themselves in the water, were almost helpless. When by an extreme effort one of them would succeed in raising its body above the waves it was likely to be turned over and over by the furious gale and shot into the crest of a foaming wave.

When the wind changed so that the water was driven back towards the shore with a rush, all of the pelicans on the shore began screaming, and it was these extreme penetrating cries from the pelicans and the gulls that were being driven ahead of the gale, that drew the attention of the people to the coming wall of water. All of the pelicans began to run and flutter towards the higher ground, but the fearful rolling, foaming waves caught and swallowed them in less time than it takes to tell it. Not one was left on the shore. Some of them could be seen for a time riding the terrible billows. Others were simply floating; no doubt many of them were dead.

The screaming of the gulls and the roar of the wind and waves was intense. Just how the gulls were able to drift ahead of the storm so long and keep from being dashed into the waves is hard to determine, but being lighter and able to take wing more easily than the pelicans they seemed to glance across the waves and meet the air again without entirely losing control. Thus they escaped being rolled into the waves, which were dashed together with great force and which caused such terrible destruction to the pelicans. After the first dash, when the water rolled high upon the beach, the gulls began to roll, partly flying, walking and being blow along, towards the higher ground. As they reached comparatively high spots they veered about with their heads towards the water and moved inland by a peculiar backing movement. Drawing the wings together and raising the hind part of the body a gull would hold

its head to the ground and seemingly jump straight up in order that the wind might carry it a few feet inland. In most instances the head would drag on the ground something like an anchor, and after accepting such a boost the gull would let its body fall down flat. In case it lost its balance and was taken up by the wind and turned over, it would draw up its legs and contract its wings so that when it hit the sand it would roll over and over. In this way many of them worked their way far enough inland to avoid the terrible crash of the debris that was brought in by the waves after the first set had reached the shore and the water had risen to a point somewhat above high tide.

As the foaming waves began to deposit the wrecks of bath houses, piers and pavilions along the beach, many water birds of various kinds could be seen in the wreckage. Some of them were alive; though it seems impossible, several gulls and terns fluttered out of the drifts and escaped to the shore. The waves pounded the drifts with such force that if a bird did not escape as soon as it came in, there was no hope for it, since it would surely be crushed between timbers.

The next morning great drifts of tangled masses of what had been trim-limbed cranes and pouch-mouthed pelicans could be seen. A few cripples were found: two great gray pelicans, one with his leg broken just above the knee and the other with a broken wing; three terns with broken wings, one of them having both wings broken; and five gulls with broken wings. One very large crane having one wing and one leg broken was still ready to defend himself with a spirit that deserved admiration.

A man who was marooned on one of the low islands which was swept by waves, climbed the largest tree on the island, a mere bush, and as he was waiting, he knew not what for, he saw a crane nestling behind a large rock that protruded above the water. Although he was not an ornithologist, a feeling of sympathy was aroused, and he watched with much concern as the water became higher and raised the crane above the rock.

"Old fellow I hope we'll both pull through," he said as he took a fresh hold with his numb hands. But the winds continued and the water kept rising. He had to draw his legs up to keep his feet out of the water. "I guess we'll go pretty soon. Well here's to you. You understand the game better than I do." The crane was on top of the rock now, but it was keeping its body as near the surface of the water as possible. A flock of gulls was driven past and their screams could be heard above the roar of the waves. The crane strained himself as if ready to try the waves. Then with an eager turn of the head from side to side he plunged into the water and allowed himself to drift before the storm. "Good-bye, old fellow." The next morning when a boat came to the rescue, one of the first things the man asked was, "I wonder how that old crane made out!"

No one witnessed the destruction of the gallinules. A large colony of these birds was completely exterminated. Their portion of the island was completely swept by water, and the next afternoon many of them drifted to shore just above the city of Corpus Christi. With these birds that drifted in were several eggs floating unbroken in the salt water. Why could not a Purple Gallinule, that graceful, trim-built, active, fish-eating bird take care of itself in a storm as well as a sea-gull? An expert diver and an excellent swimmer should be able to float. While a few live pelicans could be found after the storm, nobody reported seeing a live Purple Gallinule for several days.

On one of the drifts that contained thirty-one dead cattle besides the bodies of two hundred and fifteen birds of various kinds, there stood a solitary Scarlet Ibis. Like a garnet in the sands, or a rosy promise of the morning sun, it stood, gracefully poised above the terrible ruin—an encouragement, an inspiration, an unfailing hope—not as the rainbow suggesting the possibility of another destructive force, but as an animated symbol that life is immortal.

Houston, Texas, December 28, 1916.

BIRDS OF THE HUMID COAST

By FLORENCE MERRIAM BAILEY

(*Continued from page 13*)

III. THE CENTER OF A COMPRESSED NESTING AREA

There was so little cleared land that in a radius of fifty rods, including a few cleared acres and half lumbered woods, there was a compressed nesting area including a large variety of species. So well tenanted were the carpenter's acres that we could study ornithology indoors. Through the open windows the cheerful song of the California Purple Finch was sometimes heard at breakfast, a loud rapid round that added brightness and vivacity to the general medley of Sparrows, Vireos, Warblers, Wrens, and Robins, but was too bright and vivacious to accord with the sublimated songs of the Olive-sided Flycatchers, Nuttall Sparrows, and Varied Thrushes. While the round of the Purple Finch was occasionally heard, the song that came in through the windows from daybreak until dark was that of the Russet-backed Thrush, a song that, while it lacks the rare spirituality and deep serenity of that of the Hermit Thrushes, is so gentle, sweet, and musical that it seems fitted to harmonize all discords, avian or human. In the dusky margins of the days about the middle of June the voices of a family of Screech Owls were added to those of the song birds heard through the open windows.

From the sitting-room window we looked out on a charred spruce stub full of big holes dug out by the Pileated Woodpecker, and one day when I was away, one pounded there for twenty minutes, as the carpenter's wife reported. Not long after, I was called excitedly from my room with the good news, "He's there now!" And there he was, great Cock-of-the-Woods, second only to the still rarer Ivory-billed, with large black body, glowing red crest, and white neck stripe; lordly bird, the unusual sight of whom thrills the bird lover in heavily wooded regions from Maine to Oregon, making himself at home just outside our sitting room window! As he worked, someone coming up the trail startled him and, alas, away he flew out of sight. Several times later I heard the stirring *chuck, chuck,* in the woods, and one morning the sound of muffled blows in dead wood was followed by the *chuck-ah, chuck-chuck-chuck,* and as I crept silently down a trail in the dense protecting shadow of the timber the dull pounding stopped me and through an opening in the trees I discovered one of the splendid birds on a finger of broken branch in a niche, sunning and pluming itself. As if for an audience it spread one wing wide in the sun, tipping it

up till the handsome sulphury white undercoverts showed, pecked at the bark, gave a low rapid *chuck, chuck-ah, chuck,* and then climbed up to peck at another section of the gray trunk spotted with round holes till, though I made no sound, craning its neck far out sideways as if I had been discovered, it flew off. Another day the loud rapping came from an adjoining stub and I found a Pileated working in earnest. Bracing with its tail and hooking its strong left foot into the bark in front or to one side of it, the Cock-of-the-Woods would crack off a slab masterfully with a single blow, but it would also probe carefully and turn its head and place its chisel with delicacy and skill. Once, after drilling a sliver of bark loose, it put its head under it to explore and then, having located its quarry tore off the bark and went to excavating. When tired of work it climbed to the top of the stub where it stood silhouetted against the gray sky, then again stretching its wing and preening its feathers. When the dogs barked it only turned its head, but when a Flicker passed over, raised its wings and flew away.

The Pileated did not call at the house again, and our next visitor—no big black Woodpecker but a tiny fluff of greenish feathers this time—a young Golden-crowned Kinglet, actually flew in at the open door. Back and forth the poor frightened little creature flew above the level of the open doors and windows lighting now on the boarded ceiling, now on the clothes-line stretched across the room, where it showed its green body, wing bars and short but deeply notched tail. At last it flew against a window with such a shock that on rebounding it lit on a sock on the line, clinging to it half stunned, with bill open. By going up softly and talking to it gently, I slowly closed my hand over it. Yes, there were not only the characteristic Kinglet wing bars and yellow-pencilled wing edgings, but the wide white supereciliary and the suggested crown markings of the young golden. As it squirmed in my hand I caught the dark brown of its iris. While I was studying it, poor little Goldilocks, used to tragedies, and also to practical cash valuations, had been excitedly running about the room exclaiming—"I wouldn't kill it, I wouldn't kill it, for, for five dollars!—it's so sweet," and when I took it to the open door and she saw it dart away across the garden and vanish in a little spruce, her sensitive face broke into smiles and she danced about joyfully,ready once more to go singing about the house like a happy bird.

Many of the birds whose voices came in through the open windows could be seen without going farther afield than the front porch. Western Robins were as much at home as are their eastern brothers about lawns and gardens. One would sit in the top of a tall hemlock or Sitka spruce and sing the song heard from the dooryard lilac in the east; but wandering thoughts of home were suddenly dissipated by sight of a Rufous Hummingbird flashing its gorget in an adjoining tree. The Robins' songs began to decrease the second week in June, when the birds were often seen flying swiftly across the garden with salmonberries in their bills, and the last week in June they were found feeding spotted young on the board walk, a very convenient place for parents to see the brood they were trying to feed.

While the Robins picked the wild salmonberries growing along the edges of the woods, the Rufous Hummingbirds buzzed around the logan-berry blossoms in the garden and a green-backed female or young was also seen whirling its wings before a fuchsia. While the Hummingbirds went and came, darting into the garden, buzzing about the flowers for a few moments and darting off

again, the lovely Russet-backed Thrushes were almost always within sight or hearing, hunting for worms in the garden or along the edge of the bracken bordering it, sitting on the fence or the logs that lay half hidden by the ferns. They even perched on the tip of a large pevee used to warp over the great logs that seemed to promise an inexhaustible supply of fire wood, much needed in that north country mornings and evenings even in June. One sat on the pevee fluffed out, looking around for a long time one day, its saffron throat and the lightly spotted upper part of its breast suggesting the Veery Thrush, whose calls and song seem nearest to its own.

As the Thrushes were almost as tame as Robins, I had ample opportunity to study their calls and songs. The call notes, varied and striking, were at times soft, rich, and liquid—as *hoipe, whoipe,* or *whoite,* the *whoite* occasionally having the inflection of a query. At other times the notes were startlingly loud and whistled, as a peremptory *hoy'-it,* sounding as was suggested "as if some one was calling a dog." A common alarm note was a single call, but an alarm note sometimes given for a cat was a low whistled double note, *whee-ee.* The bleat, the counterpart of that of the Veery, I never heard used in alarm, but it was occasionally interlarded with the song, as *whee-hiter'r'r, whee-hiter'r'r.* It was also given by itself, with emotion, apparently being answered by another bleat. The split Thrush round that suggested the Veery song was generally preluded by the call notes and may be brought to mind by the syllables, *hoipe, whoipe, tra-la-la-la-ree,* the second and last syllables given with rising inflection. Sometimes the split round was given softly without prelude. As the birds sang all day long, their songs often lacked inspiration, and in such cases the preliminary call notes were doubled, giving an amusingly perfunctory effect, as if the bird were working himself up to his song—*hoipe, hoipe, whoipe, whoipe, tra-la-la-la-ree.* Another phrasing of the song with quite different rhythm was *what, what, ha-whee'-ah, ha-whee'-ah.*

When a Thrush was sitting on a stub in front of the house it would sometimes raise its tail and flip its wings like a Robin, as if with the arrested intention of moving on, and on rare occasions one would raise and lower its tail like a Hermit Thrush, though with a quick rather than a deliberate motion. But in the main, the Russets seemed peculiarly quiet Thrushes, with little motion of wings or tail.

The last week in June a pair were seen going about the garden collecting green worms and carrying them in their bills to a thick clump of young spruce and hemlock, only two or three rods from the front porch. The trees were so dense that it was only after long search that a chink was finally discovered by the carpenter's wife through which the nest could be dimly seen about twelve feet from the ground, a bulky mass with moss on the outside, supported by a branch. The nest tree was in plain view from the porch and as we sat there with Goldilocks playing near, and the good woman told me about crossing the plains, and about a Burrowing Owl that had lived in their prairie dugout, and a pet Sandhill Crane that had run races with her when she was a girl, we watched the old Thrushes go back and forth to the nest. Used to seeing us about the yard, they had little fear, and when I went and stood close under their evergreen, came in at the back of it. As they made their way up to the nest I saw pink salmonberries in their bills and heard the bee-like buzz of greeting from the young. Between the visits of the parents the young could be heard moving around and one sturdy little fellow fluttered up and stood on the

edge of the nest almost ready to fly—no wonder the father sang with a deep note of home happiness! But the next day the nest was empty, the restless youngsters had flown, and remembering a bunch of brown feathers found on the walk one morning, I feared that anxious days were in store for the fond parents.

While the Thrushes were familiar companions, other feathered neighbors were seen only in passing. An Audubon Warbler stopped to sing near the house the latter part of June, as if its family cares were over, while a pair of Barn Swallows that were discovered sitting around were perhaps prospecting for another year. A Bald Eagle seen by the fisherman flying over the house the last of June was probably on its way to or from its fishing grounds. In the forest thicket a stone's throw from the house, fleeting glimpses of the bob tail of a Western Winter Wren and outbursts of wrennish song from dark impenetrable interiors had put me into a very exasperated state of mind; but one morning when the jolly little jumble was heard, from the doorstep I looked up to discover a mite of a bird on the tip of a hundred foot stub across the clearing —a fly on a mast! Through the glass I could make out his plump little form and bob tail and see him raise his head and move his throat as he sang his rapid round. There he was at last, no wraith, but a flesh and blood wrenkin.

From the front porch the familiar song of the Wren-Tit was occasionally heard coming from the burned over, chaparral covered, mountain slope above, a slope that from our distance below looked an open easy climb, but was so densely covered with high salal, brake, and salmonberry bushes that one could just about see a man's head above the thicket—quite the kind of place a Wren-Tit likes. The hunter of the family was watching the slope carefully now as he was planning a bear hunt in the mountains and a she bear and two cubs had been seen there not many months before. It would do no good to watch the slope for my bird, much as I longed to see it again, but its familiar strain, *keep, keep, keep-it, keep-it, keep-it,* reiterated with variations, was always listened to with keen delight, recalling as it did charmed days in beautiful California. The last of June, only a few days before I left for the Cascades, on going to the front door after breakfast I was surprised and delighted to hear the familiar *keep-keep-keep'r'r'r'r'r'r* of Chamaea close at hand, and a moment later its purring note came from some brush only two or three rods away, followed quickly by the appearance of the delectable brown Wren-like form twitching its long tail from side to side so vehemently that it almost tipped over. Here it was at last at my very door!

That same week a Junco that I had been looking for ever since my arrival, probably also wandering after the breeding season, came to my door, staying on a log long enough for me to see its black head, dull brown back and pinkish sides. Suggestive trills and aggravating flashes of white tail feathers were finally followed by the sight of a pair of the birds busied among the brush and logs of an old burn. One more bird which I had vainly tried to place in the heavy timber came to the dooryard just before I left—the lovely little Siskin from the mountains—lighting on top of a low hemlock and letting me walk around close under him so that I could see his brown streaked body as he sang his song, suggesting that of the Goldfinch with an added tang that makes it sweet wild music to the ear of the mountain lover.

From the front piazza the morning and evening concerts could be enjoyed to the full. And in the medley by listening closely the indescribable split note

of the Varied Thrush, rarest of singers, could be distinguished coming from the top of the ridge above.

The back piazza that afforded a beautiful view of the blue Bay framed between conifers, also gave glimpses of some of the forest birds attracted to the dense young spruces back of the house. The Chestnut-backed Chickadee was one of the most interesting in its protective coloration, the dark flat brown of its back looking like applied cloth in the dark forest where, while it did not match anything, the patch seemed to detach itself from the form of the bird, toning into the somber forest background as effectively as did the dark browns of the northwest coast Wrens and Song Sparrows. When a family of Chickadee young were seen trailing after their parents on the edge of the clearing I noted that the white patch on the side of the head was clear and keen enough to help the brood keep together. But in spite of that light touch the Chestnut-backs seemed peculiarly characteristic birds of the dark Humid Coast forests, and in the rainy season, nothing daunted, they flitted about the dripping branches of the Sitka spruces singing their cheerful Chickadee ditty—*Swee-ah-zee'-zee-zee, Swee'-ah-swee-see'.*

Around the house and in the low greenery on the edge of the clearings in early June I was continually hearing or meeting with the Golden Pileolated Warbler—charming little creature with its jet black cap, vivid golden dress, and pretty ways—peering out at me from between the green leaves and then with a flat *chip* dashing out across the opening like a flash of bright sunshine. Often when the bird was invisible I recognized its loud rapid accelerated and possibly rather harsh *chat-ah-chat-ah-chat-ah-chat-ah-cha,* at times preluded by a fine liquid run that was delightfully musical.

In the young Sitka spruces around the house and on the edge of the clearing, a family of Golden-crowned Kinglets were often seen fluttering up under the long drooping terminal sprays of a spruce or flitting about among the dark branches, busy little mortals, appearing only to disappear, before I could focus my glass on them. Once as one of them fell through the air I caught a glimpse of the golden crown of the adult and again caught the white line over the eye of a young one, perhaps the very one that entered our open door that afternoon.

Another day when one I took to be a Kinglet parent had crossed the trail to a low tree and wished its family to follow, it gave a small double note that I had not heard before and the whole band went obediently trooping across the open to join it. On a warm afternoon the little family was found in the shelter of a sunny grove of low trees on the edge of the garden, the grove where the Screech Owl family afterwards slept in the day time, and where blue sky could be seen through the chinks, high ferns making an attractive enclosure. They were a happy busy little family going about full of small talk in high-pitched notes such as *ziz-iz-iz-iz-iz* and *zeegle-zeek,* tiny dainty creatures, the young ones still with fuzzy heads. The characteristic thin *ti-ti, tititi,* was often heard in the tall conifers, and late one afternoon when coming up the board walk I found a family apparently going to roost for the night in the top of a big Sitka spruce so high overhead that it made my neck ache to watch them as they flitted about with a flip of the wing and finally disappeared in the deep shadows of the thick branches.

On the edge of the vegetable garden the second week in June when we were still getting drizzling foggy days, a family of the musical Seattle Wrens, with long barred tail and white line over the eye were going about together,

the young full grown but dingy breasted. When I spoke to the carpenter's wife about their being out so early she rejoined, "They're an early layin' bird," which would apply equally to the Kinglets and Chickadees, all of whom were seen with families early in June.

IV. UP THE OLD WOOD ROAD

An old wood road circled around from our clearing up along the foot of the mountains through half cut timber to the next clearing where a New England family were making a home, and from this road through the half open woods many birds were to be seen. In the brushy edge of the timber where ferns stood above my head, early in June I happened along at the rare moment when a Golden Pileolated, who generally sings hidden away in the greenery was impelled to proclaim his joy in the open, and oblivious of all passers-by, oblivious of all but the song in his heart, beginning softly on top of a high stub above me, flew singing more and more rapturously, more ecstatically from one lofty perch to another.

As the old overgrown road swung around a corner before entering the woods, long arms of low Sitka spruces reaching to the light held out detaining fingers. Beyond, a luxuriant growth of salmonberry bushes leaned out over the road, their long vine-like arms tossed so high that only winged birds or children riding by could pick their luscious berries, berries curiously enough both salmon yellow and raspberry pink. with a delicious flavor all their own. On the other side of the road stood tall beautiful spikes of bright pink Canterbury bells, or fox gloves as the people of the country call them, at that time the dominant flowers of the clearings.

Inside the woods little disturbed by man, as its overgrown road testified, the latter part of June I heard a second happy songster, this time a brown Winter Wren with his inch of a tail tipped up at his back, singing on the mossy top of an upturned root. A companion Wren was clambering around over mossy branches close by, and her mate's song was of every day home happiness, but even so he sang so hard that his bill looked as if set wide open. Little Goldilocks and her two white dogs were running about and one of the Wrens looking at the dogs gave a bob and disappeared. Whenever I passed that way afterwards, I looked for them and sometimes caught glimpses of them or heard snatches of song up the woods; but in any case it was pleasant to remember that they had been there, brown sprites of the dark shadowed forest. This dense Humid Coast country is the chosen home of these cheery spirited little birds whom no shadows have power to depress, and during the month of my stay I located what I took to be five different pairs within the radius of fifty rods which included most of my working beat.

Along the woods road the dominant bird was the handsome crested Jay with its smoky head and neck, turquoise underparts and dark blue wings and tail. Its loud imperious *check-ek-ek-ek-ek* varied by a hoarse *cha-cha-cha-cha-cha* often greeted me on entering the woods, and one would sometimes sail down on outspread wings from tree to tree with a quick *whécker-whecker-whecker*, or perhaps give the crow-like 'cork-pulling' *ker'r'r'r'r'r'r*. When one wanted to get to the top of a tree, instead of flying straight up as many birds do, he would climb the winding stairs, a branch at a time; and one that I watched started near the top of a tall conifer and ran rapidly down his stair, at its foot apparently giving a bite of food to his mate.

Like other Jays the Coast Jays are unpopular with their neighbors and one morning I saw a pair of Black-headed Grosbeaks chase one up and down the winding stair of a dead tree, the irate female getting so close to him that it looked as if she pecked him on the back. In the neighborhood in which the Grosbeaks seemed so much at home, one was seen on a mossy log by the brook that ran through the woods, shaking its wings dry, and one on a delicate huckleberry bush leaning over to pick off the red berries. They were seen a great deal in the spruces on the edges of the clearings and also well up in the high trees in the woods, and as they flew from tree to tree the white patch at the base of the wing quills and also the white tail coverts showed to advantage.

The Grosbeaks were so often seen in the same trees with the Western Tanagers, who bathed from the same brook, that the songs of the two had to be distinguished. The Tanager's rough-edged song is totally different from the Grosbeak's best, most roundly modulated one, and when the Tanager's call—*pitic* or *piterick*—is incorporated in his song as is often the case, it can be placed on the instant. When this is left out, however, the disjointed song with its pendulum rhythm closely resembling that of the Scarlet Tanager, may be confused with the poorest, roughest song of the Grosbeak.

The red of the Tanager's head in the timber makes a good recognition mark, as I realized when catching a glint of red rods away through the woods; and on the outer edge of a spruce the yellow of his body gives a keen note of color, surprisingly pleasing against its background of somber green. The yellow shows as he flies up from one branch to another—one that I saw flew up and fluttered under a branch like a Kinglet—but when he sits still with wings dropped the uncovered yellow of the back, as I was surprised to discover, loses its color, becoming just a light oblong patch quite detached from the form of the bird. The back of the female, an exquisitely harmonized bird with her greens and yellows, fades out of sight against a sunlit hemlock.

Besides these Jays, Grosbeaks, and Tanagers, birds of striking voice and plumage, the woods held the thin-voiced Gairdner Woodpecker, noticeably blacker than the Downy, and the demure dull-colored Western Wood Pewee and Western Flycatcher, the grayish Pewee perching on a dead hemlock giving its gentle *tu-weer* and the Flycatcher with its dull yellow breast moving about in the greenery giving its soft *se-wick*. The small, characteristic beady note of the California Brown Creeper was detected, though the bird itself was not discovered.

When watching the birds in the woods going and coming about their various matters, I often discovered a Rufous Hummingbird on a high watch tower, the very tip of a sliver projecting above a high stub, the animated brown marble pointed with a needle swaying from side to side, the brown tail sometimes jetting in unison while the keen pin head eyes kept a vigilant outlook. Let an insect pass and out would dart the Hummer. Sometimes when watching he sat silent, sometimes he sang a squeaky little *kick-ick-ick-ick-ah*. As he sat on his watch tower a puff of wind once blew up one of the elongated ends of his burnished fiery gorget, showing its pattern. When the midget faced me for a moment the center of his flaming gorget looked almost black. The causes of some of his actions had to be guessed at. When hovering over a moist gummy spot on a spruce branch I imagined that he was looking for insects in the gum; and when, after acting as if about to alight on the bristly terminal spray of a Sitka spruce, he flew off instead, I suspected that the prickly needles had

seemed too sharp a perch for even his tiny feet. When the fireweed bloomed the Hummingbirds were seen around that as they were around the handsome pink spikes of Canterbury bells. One that I watched feeding from a bell first put his bill into the lip of the flower, standing in air with feet held close to his body, wings whirring, and tail at an angle; then, failing to reach the insect-fraught honey, probed deeper and deeper till he had climbed bodily up into the pink tube. But this Troglodytean method was apparently distasteful to the little Ariel, and quickly withdrawing he fell to probing the bases of the bells from the outside.

A stub watch tower vacated by a Hummer was taken possession of by a magenta headed California Purple Finch, so popular are bare outlooks among the dense evergreens of the Humid Coast. A dull streaked female, presumably his mate, was also discovered near by. At another time looking across the partly shaded brook a gleam of magenta was detected and enjoyed as every gleam of color is in that land of dark shadows.

V. BY THE SIGN OF THE SPRUCE STUB

As the wood road came out into the clearing, a white tent on a high frame foundation on investigation proved an improvised chicken house. What had been a field of bracken two years before when the New England family settled there, was now hen yards, flower and vegetable gardens, a substantial conquest indeed, for in clearing the land the long roots of the bracken have to be laboriously dug up, and as the man of the house was a nightwatchman across the bay, the main part of the work had devolved upon his resolute wife, who had followed her children's children across the continent to make this new home. With quiet pride she showed her New England garden in which, under the shadow of a giant spruce stub, bloomed pansies, sweet peas, sweet Williams, and many a familiar home flower. A well stocked vegetable garden added proof of what an enthusiastic woman can do with nature in her Oregon stronghold.

Though the acres surrounding the house had been wrested from nature the stub of the old giant spruce on the edge of the garden still dominated the landscape. It was apparently the largest in the neighborhood, measuring thirty-nine feet eight inches in girth, four feet above the ground. Dwarfing everything in sight it bore silent testimony to the nobility of the forest that formerly possessed the land. But at the sawmill that the nightwatchman guarded an occasional spruce would yet come in, twelve feet through, so large that it had to be dynamited and quartered before it could be gotten into the mill. In the mountains trees six feet in diameter eight or twelve feet above the ground were said to be common, supplying at the mills six lengths twenty-four feet long, or a hundred and forty-four feet below the branches.

In one of the small stubs near the house, the New Englanders pointed out with friendly interest a nest hole about twenty-five feet from the ground that a family of Western Bluebirds occupied early in the summer, like eastern Bluebirds coming to sit on the fence posts and get worms from the garden. Many other birds came to sing on the edge of the clearing, the gardener told me, but added regretfully that she did not know what they were.

At the foot of the garden were a number of old snags, gray charred stubs in which Tree Swallows nested. The gardener's sister, who from her window in the peak enjoyed looking down on the snags and across to the mountains be-

yond, told me of the birds. "When they first get here, if there isn't a royal battle over those snags!" she exclaimed. "Fight? Yes, scream and holler and fight around those trees. I used to set and watch them birds." The chipmunks, she said, climbed the stubs and the Swallows drove them off. "I used to like to see them fight a squirrel down," she said. "Half a dozen would dive right at him and they'd put him down in a hurry."

Only one family of Tree Swallows were in possession at the time of my visit and their nest was about twenty feet from the ground on the east side of the stub. Once when I was watching it the gardener warned me not to sit near the stubs when the wind was high for, as she said, "they go over sometimes"; but her husband in a tone of superiority remarked that they wouldn't fall in my direction as the wind was from the ocean. When after several visits the birds had become somewhat used to me I put my camp stool down at the foot of the stub where the bracken stood above my head, and the Swallows went about their business unmindful even of the white dogs that had accompanied me. The bark had fallen off the stub from the nest hole down, but still held above and made a shading portico for the door.

The Swallows in coming to the nest would sail down on set wings. If I did not see them I knew they were approaching by seeing their shadows wavering over the shiny gray trunk and the ferns below, and also by the actions of the young which would crane out of the doorway till the sun lit up their three big chirring yellow throats. When the three nestlings' heads crowded the doorway it looked as if the builder, the 'carpintero', had not measured for such a cup full. Occasionally one of the old birds would go down into the nest out of sight, but generally they clung to the doorway feeding the young from outside.

When the female was hanging there the dull sheen of green that showed on her back was in striking contrast to the handsome steel green of the back of the male. When one of the nestlings stood in the doorway the sun rested on its sooty head and lit up its bright eyes as it pecked vaguely at the wood. It was looking out into the world. Perhaps it felt the call of the open sky. In any case the next time I came that way the old stub stood silent and deserted. From being a center of life and interest, a home, it had become a charred dead tree trunk. I turned away as from the empty house of a friend.

(*To be continued*)

A LIST OF THE BIRDS BREEDING IN SAN FRANCISCO COUNTY, CALIFORNIA

By HAROLD E. HANSEN and WALTER A. SQUIRES

WITH FOUR PHOTOS BY THE AUTHORS

SAN FRANCISCO County has an area of forty-one square miles. In elevation it varies from sea-level up to a little less than one thousand feet above the sea. The eastern part of the county lies in the Upper Sonoran life-zone and the western portion in the Transition life-zone. Alcatraz Island and Yerba Buena Island lying in San Francisco Bay, and the Farallon Islands some thirty miles out to sea beyond the Golden Gate, are included in the coun-

ty. Although the county is small it presents some points of marked ornithological interest.

The Farallon Islands furnish a nesting place for thousands of birds from the open sea, and in the nesting season these rocky islets present one of the most striking ornithological phenomena to be seen in any of the states of our Union. The mainland portion of the county is not without interest to the thoughtful student of birds. There is probably no area of similar size in the State which has so much to teach us concerning the effects of human environment on bird life.

Vast changes have taken place in this little area during the last sixty years. During that time a city of a half-million people has grown up on the tip of the peninsula south of the Golden Gate. Salt marshes have been filled, and the shore line in many places pushed far out into the bay. Hills have been leveled and creeks filled. Bushy hillsides and sand-dune tracts have been built

Fig. 20. Stow Lake, in Golden Gate Park, San Francisco.

up into residence districts. Such changes must of necessity affect the avifauna of a region.

Indeed, at first thought, one might wonder whether many species of birds would remain after such sweeping changes. That many species have not only survived but have actually increased in numbers, and that several new species have come to make their homes in the county, is the conclusion toward which the present avifaunal condition of the county seems to point.

In undertaking this study of the nesting birds of San Francisco County we have had two objects in view. Our first object has been to furnish to those interested in our birds a reliable list of species making this county their home; for a bird's home is where it builds its nest. Our second object has been to furnish, if possible, some reliable data concerning that far vaster problem, namely, the effect of the occupation of a territory by the white race upon the native birds. In order to furnish data of the last named kind we sought to learn as

much as possible concerning the condition and bird life of this part of the peninsula before the city had grown much or the white man's occupancy of the country had wrought marked effects. We found a few of the early settlers who were able to furnish some helpful hints, but for the most part we had to rely on what one may call "remnants" of the primitive conditions. For example we were able to visualize what the forested hills of the county were before the planting of the forests, by thinking of them as substantially like the Twin Peaks which have remained largely in their primitive condition. The sand-dune tract a little back from the ocean and south of Golden Gate Park is a sample of what a large part of the county must once have been, especially in its western portion. There was no proper forest, hence there must have been few of the tree-loving species of birds in the county in the early days. Here and there was a dense live oak covering. Portions of this ancient live oak coppice may yet be seen on Strawberry Hill, in the park north of the conservatory, and about the bear pens; it may also be seen in an even more primitive condition on the hill in the old cemetery known as Laurel Hill Cemetery.

Some species of birds have doubtless been driven from the county, but it seems certain that more have come than have departed. The changes wrought by man have not all been detrimental to the birds. The region now occupied by Golden Gate Park was formerly in the sand-dune tract, for the most part. The sand-dunes are largely barren of bird life, but the park is a kind of bird's Paradise. Its lakes furnish homes for numerous waterfowl, and its forested hills give conditions closely approximating the Boreal areas of the Sierra. Sutro Forest adds a thousand acres to the forested area of the county, and the tree covered sections of the Presidio are hardly less extensive. The Lake Merced region is, some of it, in its primitive condition, though here, too, some extensive tree planting has been done. It is very probable that a good many waterfowl have been driven from their native nesting places about Lake Merced and that some sea-going birds have been driven from the mainland portion of the county, as well as from the islands in the bay. That part of the coast which extends from the Cliff House around to Fort Point consists, for the most part, of high rocky cliffs; probably at one time, before the settlement of the county, it teemed with nesting sea birds. Alcatraz Island and Yerba Buena Island were doubtless great breeding places for sea birds also. The name Alcatraz is Spanish for pelican; and the island was probably a roosting place for the California Brown Pelicans, though it is hardly possible that they nested there, since it is so far north of any present nesting site.

Mr. W. Otto Emerson writes that thirty years ago the Bullock Orioles were abundant at Lake Merced; if there are any in the county now, we have failed to find them. Ten years ago Ray listed the Intermediate Wren-tit as a resident of the county, and there is one record of its nesting here (Oologist, IX, no. 8, p. 93). It is almost certain that there are none here now. Eggs of the Western Grebe were collected at Merced Lake by A. M. Ingersoll in 1885. These birds are occasionally to be seen there to this day, but they no longer seem to nest there.

We have included in the following list a number of birds for which we have not been able to find any nesting records. In every case, however, there was, in our opinion, a strong probability of their breeding in the county. Frequent observation of a bird in the breeding season would seem to us to establish such a probability. Of course this rule would not apply to certain of the

larger waterfowl, which have non-breeding individuals remaining with us throughout the year. Loons are to be seen at Lake Merced throughout the entire summer; and scoters are apt to appear at any time of year on the ocean just off-shore.

These are non-breeding birds, but we do not believe that this habit of remaining for a season in their winter homes is to be found among the smaller birds. Neither would this rule apply to certain birds which evidently make San Francisco a feeding ground while nesting elsewhere.

The Great Blue Heron, Black-crowned Night Heron and the Anthony Green Heron all come frequently into the Lake Merced region and less frequently to the Islais Marshes, but their nesting places are probably in San Mateo County or possibly in Alameda County. The American Bittern is a not-infrequent visitor to Lake Merced, but no man seems to be able to name its nesting place. Vultures and crows come over occasionally from Marin County, and it is a common experience on a summer evening to hear the hoarse croak of ravens overhead and to see these birds winging their way southward down

Fig. 21. TULE-FRINGED SHORES OF LAKE MERCED, SAN FRANCISCO COUNTY.

the coast. Gulls of several species are present through the summer, and in midsummer the great run of the Dark-bodied Shearwaters is at its height just off-shore, and sometimes they pursue their finny prey into the bay.

There are a few other birds the nesting of which within the county, while it cannot be affirmed, is not yet wholly beyond the limits of possibility. The Western Bluebird has been known to nest in the Mission District and may yet be found again nesting in the county. Eared Grebes are seen throughout the year on Lake Merced and it would not be surprising if they should sometime be found to nest there. Some kind of small owl has been shot occasionally by the park game wardens near the Prayer Book Cross. It is possible that they were Coast Screech Owls and that they nest somewhere in the county. The Dusky Horned Owl has been reported several times recently from Sutro Forest.

We are indebted to Jesse Klapp, game warden in Golden Gate Park, for valuable assistance in our field work in the park. We have also gleaned a number of nesting records from Milton S. Ray's paper on the "Summer Birds of San Francisco County, California" (Condor XVIII, 1916, p. 222). However,

a desire to see only thoroughly reliable statements concerning our avifauna given publicity, leads us to question two of Mr. Ray's nesting records, which seem to us to be certainly erroneous. His records concerning the nesting of the California Brown Towhee and the Western Kingbird are based on alleged discoveries of Jesse Klapp. Both of these species, if they are to be found in the county at all, are so rare that the finding of the nest of either would be remarkable. There is evidently some mistake in the record, for Mr. Klapp informs us that he has never found the nest of the California Brown Towhee and does not know that he has even seen the bird in the park at any time. He reported to us early in the summer that he had seen a kingbird feeding young and we went at once to the part of the park where he said he saw it. We did not find any kingbirds but did find the Olive-sided Flycatcher, and Mr. Klapp thinks that the birds he saw may have been this species rather than the Western Kingbird. He says he has found no nests of the kingbird.

Fig. 22. Nest of Coot at edge of Lake Merced, San Francisco County.

So far as we have been able to discover the following list contains all the birds known to be nesting in the county up to the present time, together with those whose nesting in the county is probable.

1. **Podilymbus podiceps.** Pied-billed Grebe. Brood of seven young seen at North Lake in Golden Gate Park, June 11, 1916. Also breeds at Lake Merced; young seen there on several occasions.

2. **Lunda cirrhata.** Tufted Puffin. Breeds abundantly on the Farallon Islands.

3. **Ptychoramphus aleuticus.** Cassin Auklet. The most abundant of the species breeding on the Farallon Islands.

4. **Cepphus columba.** Pigeon Guillemot. A nesting colony of half a dozen pairs was found on the cliffs south of the Golden Gate, July 2, 1916. At that time most of the nests contained young. It also breeds on the Farallon Islands.

5. **Uria troille californica.** California Murre. Breeds abundantly on the Farallon Islands.

6. **Larus occidentalis.** Western Gull. Breeds on the Farallon Islands.

7. **Oceanodroma kaedingi.** Kaeding Petrel. Breeds on the Farallon Islands (Loomis, Proc. Calif. Acad. Sci., VI, 1896, p. 359).

8. **Oceanodroma homochroa.** Ashy Petrel. Breeds commonly on the Farallon Islands.

9. **Phalacrocorax auritus albociliatus.** Farallon Cormorant. Breeds on the Farallon Islands. Reported to be breeding on Seal Rocks by W. Leon Dawson. In answer

to a letter of inquiry Mr. Dawson says "there can be absolutely no doubt" that the birds he saw there July 21, 1912, were brooding birds.

10. **Phalacrocorax penicillatus.** Brandt Cormorant. Breeds on the Farallon Islands.

11. **Phalacrocorax pelagicus resplendens.** Baird Cormorant. Breeds on the Farallon Islands.

12. **Anas platyrhynchos.** Mallard. Breeds commonly in Golden Gate Park, and in limited numbers at other places in the county. A nest was found at Lake Merced, April 23, 1915. A careful count was made of the mallards in the park in the summer months and about two hundred, old and young, were found to be there as permanent residents. In winter the number is much larger.

13. **Marila affinis.** Lesser Scaup Duck. Breeds at Stow Lake in Golden Gate Park (Mailliard, Condor, XVII, p. 235). A brood of five young was noted by us at Stow Lake, August 1, 1916.

14. **Erismatura jamaicensis.** Ruddy Duck. Breeds at the Chain of Lakes and at Lake Merced. Many young noted.

15. **Rallus virginianus.** Virginia Rail. Noted at Lake Merced throughout the breeding season. Nesting very probable.

16. **Fulica americana.** American Coot. Common; long breeding season; young seen early in April and a nest with fresh eggs discovered August 10.

17. **Oxyechus vociferus vociferus.** Killdeer. Not common. A few nest about the buffalo paddocks in Golden Gate Park; young seen there during the summer of 1916.

18. **Phasianus torquatus.** Ring-necked Pheasant. Breeds in Golden Gate Park unconfined. It also breeds in the open on Yerba Buena Island (Bryant, Calif. Fish and Game, II, p. 163).

19. **Lophortyx californica californica.** California Quail. Abundant in Golden Gate Park and found in lesser numbers at other places in the county.

Fig. 23. NEST OF CALIFORNIA QUAIL, WITH 23 EGGS, IN GOLDEN GATE PARK, SAN FRANCISCO.

20. **Zenaidura macroura marginella.** Western Mourning Dove. Not common, but found in small numbers in Golden Gate Park and in the southwestern part of the county. Young were seen in the Presidio and in Golden Gate Park the past summer.

21. **Buteo borealis calurus.** Western Red-tailed Hawk. Seen throughout the year about the Twin Peaks; probably nests in Sutro Forest.

22. **Falco sparverius sparverius.** American Sparrowhawk. Seen throughout the year in the Presidio and about Sutro Forest. Breeding probable.

23. **Aluco pratincola.** American Barn Owl. Nest found in a cliff at Lake Merced, May 1, 1915. Another was found in a tank house at Twenty-fourth Avenue and Ful-

ton Street, June 6, 1916. The former nest contained two young, the latter four. This owl also breeds at the Stadium in Golden Gate Park.

24. **Speotyto cunicularia hypogaea.** Burrowing Owl. One was captured at Forty-third Avenue and Fulton Street, February 26, 1916. Birds of this species were noted by De Groot in the vicinity of Visitacion Valley, February 24, 1915 (Ray, Condor, XVIII, p. 224).

25. **Ceryle alcyon caurina.** Western Belted Kingfisher. Sparingly resident at Lake Merced. Holes found in cliffs there were evidently made by this species.

26. **Colaptes cafer collaris.** Red-shafted Flicker. Nest found at the buffalo paddocks in Golden Gate Park, May 14, 1916. Not very common.

27. **Calypte anna.** Anna Hummingbird. Abundant. Many nesting records.

28. **Selasphorus alleni.** Allen Hummingbird. Common; many nesting records.

29. **Sayornis nigricans.** Black Phoebe. Nests about buildings in the western part of Golden Gate Park, and probably at other places in the county.

30. **Nuttallornis borealis.** Olive-sided Flycatcher. Not common. Seen throughout the past summer in Golden Gate Park and in Sutro Forest. Nesting probable.

31. **Empidonax difficilis difficilis.** Western Flycatcher. Not an uncommon bird in Golden Gate Park and at Lake Merced, but nests not often found. Only a few nesting records.

32. **Otocoris alpestris actia.** California Horned Lark. Rather common resident on Twin Peaks, near Ingleside, in the Presidio, and on Bernal Heights.

33. **Aphelocoma californica californica.** California Jay. Common in Laurel Hill Cemetery; rather rare elsewhere in the county.

34. **Agelaius phoeniceus californicus.** Bicolored Blackbird. Nesting colonies were found at North Lake in Golden Gate Park, near Ingleside Beach, and on the eastern tip of the northern portion of Lake Merced.

35. **Sturnella neglecta.** Western Meadowlark. Rather common in the southwestern part of the county, also found in the Richmond District.

36. **Euphagus cyanocephalus.** Brewer Blackbird. Nesting colonies numerous in Golden Gate Park, also on Sutro Heights, and near the South Side Life Saving Station.

37. **Carpodacus purpureus californicus.** California Purple Finch. Rather common in Golden Gate Park and in Sutro Forest. Several nesting records.

38. **Carpodacus mexicanus frontalis.** California Linnet. Very common; nests abundantly.

39. **Astragalinus tristis salicamans.** Willow Goldfinch. Nests in willows near water; several nesting records from Lake Merced.

40. **Astragalinus psaltria hesperophilus.** Green-backed Goldfinch. Common; nests in larger trees than the preceding.

41. **Astragalinus lawrencei.** Lawrence Goldfinch. Not common, but seen often enough in the breeding season to make the nesting of the species in the county highly probable.

42. **Spinus pinus pinus.** Pine Siskin. Not uncommon, in the park, Sutro Forest and in the Presidio. Several nesting records.

43. **Passer domesticus.** English Sparrow. Most numerous bird in the county.

44. **Passerculus sandwichensis bryanti.** Bryant Marsh Sparrow. Breeds on the Islais Marshes; young seen there June 7, 1916. Birds apparently of this same subspecies, but averaging somewhat lighter in color, are resident at the Ingleside Golf Links, in the Presidio, and high up the slopes of Twin Peaks. If these are *bryanti* their occurrence so far from their usual habitat on the salicornia marshes is rather puzzling.

45. **Zonotrichia leucophrys nuttalli.** Nuttall Sparrow. The most abundant native bird in the county.

46. **Junco oreganus,** subsp? (Sierra Junco or Point Pinos Junco). The sub-specific standing of the juncos breeding in San Francisco County has not yet been determined. From the nearness of the range of the Point Pinos Junco we might expect the San Francisco birds to be of that subspecies. On the other hand the Juncos found near Palo Alto and those recently discovered nesting in Berkeley were Sierra Juncos. It is possible that both subspecies will yet be found in the county. We have noted numerous young the past two years both in the Park and in Sutro Forest. We have also seen them about Lake Merced.

47. **Melospiza melodia santaecrucis.** Santa Cruz Song Sparrow. Abundant; probably next to the Nuttall Sparrow in point of numbers among the native birds.

48. **Melospiza melodia pusillula.** Salt Marsh Song Sparrow. Resident in marshes of the southeastern part of the county; range extends north to Islais Marsh.

49. **Pipilo maculatus falcifer.** San Francisco Towhee. Common; many nesting records.

50. **Zamelodia melanocephala capitalis.** Pacific Black-headed Grosbeak. Rare; seen only occasionally in summer. Young birds were noted in Golden Gate Park by Storer.

51. **Passerina amoena.** Lazuli Bunting. Rare; a pair was observed by J. R. Pemberton at Eighteenth and Ashbury streets, carrying nesting materials, during the latter part of May and the early part of June, 1915. Mr. Pemberton writes us that he left the city on June 10th and had not found the nest at that time.

52. **Petrochelidon lunifrons lunifrons.** Cliff Swallow. Nesting colonies were discovered on a barn south of the Potrero District, June 7, 1916; also at Good Brothers Dairy on Corbett Road, June 21, 1916.

53. **Riparia riparia.** Bank Swallow. Hundreds breed in the cliffs of Lake Merced, and a few along the ocean cliffs.

54. **Hirundo erythrogaster.** Barn Swallow. A nest was found in a garage at Ingleside Beach, June 16, 1916. It is not abundant in the breeding season.

55. **Lanius ludovicianus gambeli.** California Shrike. Resident in limited numbers in the southwestern part of the county. One nest found at Ingleside Golf Links.

56. **Vireosylva gilva swainsoni.** Western Warbling Vireo. Not common, but seen often enough in summer to make the nesting of the species in the county probable.

57. **Vireo huttoni huttoni.** Hutton Vireo. Not common. One was seen feeding a young bird in Golden Gate Park, May 1, 1916.

58. **Vermivora celata lutescens.** Lutescent Warbler. Reported by Carriger to have bred on Strawberry Hill previous to 1906. If it nests in the park at present it is rare.

59. **Dendroica aestiva brewsteri.** California Yellow Warbler. Common; many nesting records.

60. **Geothlypis trichas sinuosa.** Salt Marsh Yellowthroat. Common; many nesting records.

61. **Wilsonia pusilla chryseola.** Golden Pileolated Warbler. Rather common; many young seen.

62. **Salpinctes obsoletus obsoletus.** Rock Wren. Breeds on the Farallon Islands.

63. **Thryomanes bewicki spilurus.** Vigors Wren. Common; many nesting records.

64. **Troglodytes aëdon parkmani.** Western House Wren. Rather rare; noted about the buildings in the western part of the park, May 30, 1916. Breeding probable.

65. **Telmatodytes palustris paludicola.** Tule Wren. Resident in small numbers at Lake Merced.

66. **Baeolophus inornatus inornatus.** Plain Titmouse. Rare; seen only occasionally in summer. One breeding record (Ray, Condor, VIII, pp. 42-44).

67. **Penthestes rufescens barlowi.** Santa Cruz Chickadee. Not uncommon. We found several nests in the park and at Lake Merced.

68. **Psaltriparus minimus minimus.** Coast Bush-tit. Common; many nesting records.

69. **Hylocichla ustulata ustulata.** Russet-backed Thrush. Rather common. Many nesting records.

70. **Planesticus migratorius propinquus.** Western Robin. Breeds in considerable numbers in Golden Gate Park and at Sutro Heights.

Of the birds here listed some are certainly new arrivals. The Junco and the Pine Siskin have doubtless been induced to remain here and to nest because of the approximately boreal conditions brought about by the planting of trees. The Western Robin has not been noted as a breeding bird of the county until the last year or so. It seems to be losing its wildness and to be seeking closer re-

lationships with man after the manner of the Eastern Robin to which it is so closely related.

The English Sparrow was introduced some forty years ago and has increased enormously. The Brewer Blackbird is probably another late addition to the breeding birds of the county, as it was listed as rare some years ago and is now abundant. The nesting of the Barn Swallow does not seem to have been noted before and it is likely that it is increasing in numbers as is also the Cliff Swallow. The nesting of the Pigeon Guillemot is of especial interest. This seems to be a case of a species returning to the nesting place of its ancestors after years of absence from the ancestral homesite.

It is our opinion that many of the species of birds mentioned in this list are increasing in the county. This is largely due to the protection given them in Golden Gate Park. The custom of the park management, however, of shooting the male mallards during the winter is to be deplored. Such shooting drives away the more timid waterfowl and thus keeps many of the rare species out of the park. There are already three times as many female mallards as male mallards in the park, as any one can see for himself by counting them. Given adequate protection, the number of birds in the park ought to go on increasing for years.

The Lake Merced region is a natural bird refuge, and it would be the part of wisdom to make it such in fact. If the waterfowl and other species of birds found there were given adequate protection the bird life of the region would in a few years be such as to surpass the expectations of the most sanguine—an unending source of pride, pleasure, and profit to all right thinking people of this generation and to all the generations that are to come.

San Francisco, California, December 20, 1916.

GEOGRAPHICAL VARIATION IN *SPHYRAPICUS THYROIDEUS*

By H. S. SWARTH

(Contribution from the Museum of Vertebrate Zoology of the University of California)

THE acquisition during recent years by the Museum of Vertebrate Zoology of fairly representative series of Williamson Sapsuckers from various parts of California led to the careful examination of these birds to determine whether more than one recognizable race might be included among them. A preliminary survey of the Museum series disclosed the need of additional material from certain points, and the necessary specimens were borrowed from the collection of John E. Thayer, from the Museum of Comparative Zoology, through Mr. Outram Bangs, and from the collection of the Geological Survey of Canada, through Mr. P. A. Taverner. There are in the Museum of Vertebrate Zoology, including the Grinnell, Morcom and Swarth collections, ninety-nine specimens of this species. Altogether 123 skins were examined.

Critical study of specimens from various parts of the Pacific Coast, from British Columbia to southern California, always with due regard to seasonal and other variations, shows no tangible differences in either sex, existing between birds from different latitudes, contrary to a first impression that the northern individuals were of appreciably larger size.

Comparison of Pacific Coast with Rocky Mountain birds, however, brings forth one character, at least, serving to distinguish between the two aggregations. Relative size of bill seems to be absolutely diagnostic, the Pacific Coast bird having the bill both longer and heavier than in the Rocky Mountain race. It is no new discovery that there are differences between these two forms, for Ridgway (Birds N. and Mid. Am., VI, 1914, p. 287, footnote) gives measurements of series of both, and Mearns (Auk, VII, 1890, p. 252) discourses at length on differences of color and pattern that seemed to him more or less apparent. Neither author, however, deems the distinctions noted of sufficient importance to warrant division of the species nomenclaturally.

The variation in bill measurement, nevertheless, is exactly comparable to what is encountered in the recognized races of the White-headed Woodpecker, *Xenopicus albolarvatus albolarvatus* and *X. a. gravirostris*, the extent of difference being about the same in each case. In this connection comparison can be made between the measurements given by Ridgway (Birds N. and Mid. Am., VI, 1914, p. 265, footnote), for the races of *Xenopicus*, with those of *Sphyrapicus thyroideus* (loc. cit.). The differences are as worthy of recognition in one case as in the other. It is my suggestion here that the Rocky Mountain race of the Williamson Sapsucker be separately recognized on the basis of its lesser bill measurements as compared with those of *Sphyrapicus thyroideus thyroideus* of the Pacific Coast.

As regards a name for this form, there is already one that seems to be clearly available for use. A specimen from Mexico was designated by Malherbe (Journ. für Orn., 1854, p. 171) as *Picus nataliae*, and an example from any part of Mexico (save possibly from the mountains of northern Lower California) would assuredly be of the Rocky Mountain subspecies. Also in the measurements as given by Malherbe, length of bill ("du bec, du front 20 millimeters") places his bird unequivocally with this race.

It is reasonably certain that in the Rocky Mountain region the species does not breed south of the Mogollon Divide, though it does occur as a common winter visitant in southern Arizona and over a large part of the Mexican plateau. These winter visitants, as shown by numerous specimens at hand, are migrants from the Rocky Mountain region to the northward, and not from the Pacific Coast region. So the name *nataliae*, as given by Malherbe to a Mexican specimen, can safely be used for the Rocky Mountain subspecies, which may therefore stand as *Sphyrapicus thyroideus nataliae* (Malherbe).

Plumage variations in this species as noted in the series here assembled deserve some comment. In a paper on Arizona mountain birds, Mearns (Auk, VII, 1890, p. 252) carefully describes certain features of the species in which there seemed to be variation with locality. In the present connection I have made detailed comparison of Rocky Mountain and Pacific Coast series in regard to each of the color characters mentioned by Mearns, and failed to find even as constant or apparent difference as he did. In just one particular does there seem to be an appreciable color character. Comparing adult males from the two regions, the Rocky Mountain series as a whole certainly has the oblong abdominal patch of a trifle darker shade of greenish yellow.

In this species taken as a whole, the amount of the differences dependent on age and sex, and the extent of these as compared with similar conditions among the other forms of the genus, are of rather exceptional interest. In the early history of the bird the male and female were for years regarded as representing

distinct species, and this circumstance but serves to emphasize the wide difference in appearance in the sexes; while the fact that in a species with such marked sexual distinctions the juvenal plumages of male and female, respectively, exhibit essentially the same differences, renders it unique among the woodpeckers of North America, at least. In fact there are very few birds of any order that fall within this category.

The female *thyroideus* exhibits the widest departure from the mode of pattern and coloration as seen in the genus *Sphyrapicus* at the present time. It is unique in all the phases of specific, age, or sex variation within the genus in the total absence of red coloration and of white upon the wing coverts. This, however, does not mean that the female of *thyroideus* exemplifies the farthest advance, the greatest departure, from the ancestral coloration in the genus. On the contrary, the fact that it is in the juvenal plumages of the several other forms of *Sphyrapicus*, all with greater or less development of barring upon the body, that there is found the closest resemblance to the female *thyroideus*, suggests the possibility of the latter being in rather a primitive stage. The observed development of the black breast patch supports this idea. In the juvenal plumage there is no indication of this marking. In the adult birds (meaning by this all that have passed beyond the juvenal stage, it being usually impossible to distinguish between fall immatures and adults), there are one or two at hand in which the barring on the breast is no heavier and no more confluent than on other parts of the body, in most specimens there is more or less indication of a black patch, and in a lesser number of individuals this marking is largely developed and of a glossy black color. In one skin from the Warner Mountains, California (no. 14197, Mus. Vert. Zool.), the extension of the black area is so great, and the yellow of the belly so intense, that, aside from the absence of red on the throat, this specimen, as far as the under parts are concerned, is hardly to be distinguished from a male bird.

Variation in the male *thyroideus* appears principally in the amount of white spotting on the outer webs of the primaries, amount of concealed white in the interscapular region and the character of the markings on the flanks, in all of which there is no correlation of appearance with locality. Some young birds show more white dorsally than any adults, the streakings being but partly concealed and covering the whole back, but on the other hand there are some with the upper parts of as "solid" black as any adults. In some juvenal males the head, and even the breast, is heavily mottled with whitish. In the adults there is frequently enough white streaking dorsally to show through upon the slightest disarrangement of the feathers. In the juvenal male the flanks seem to be invariably barred; in the adult, though the effect is usually of streakings or elongated V-shaped markings, occasional individuals have as definitely barred flanks as any of the females.

Specimens examined:

Sphyrapicus thyroideus thyroideus

California. Riverside County: San Jacinto Mountains, 5. San Bernardino County: San Bernardino Mountains, 13. Los Angeles County: Mount Wilson, 3 (winter); Pasadena, 1 (winter); Los Angeles, 1 (winter). Ventura County: Head of Piru Creek, 1 (winter). Tulare County: localities in Sierra Nevada, 17. Fresno County: Horse Corral Meadow, Sierra Nevada, 5. Inyo County: Cottonwood Lakes, 2. Yosemite National Park, 16. Mono County: Walker Lake, 1. Eldorado County: Hope Valley, 1; Gilmore Lake, 1; Mount Tallac, 1; Meyers, 1.

Placer County: Summit, 1. Nevada County: Independence Lake, 8. Siskiyou County: Mount Shasta, 1; Siskiyou Mountains, 1. Modoc County: Warner Mountains, 10.

Oregon. Fort Klamath, 3 (winter).

British Columbia. Midway, 3.

Sphyrapicus thyroideus nataliae

Colorado. Gold Hill, 2. Colorado Springs, 1. Pagosa, 2. Mill City, 1. Cebolla, 1. Elk Creek, 1. "Colorado", 4.

New Mexico. Santa Fe, 1. Ancho, 2 (winter). Willis, 1 (winter).

Arizona. Fort Whipple, 1 (winter). Huachuca Mountains, 8 (winter).

Mexico. Bolanos, Jalisco, 1 (winter).

Berkeley, California, February 7, 1917.

AN ABNORMAL EGG OF *FULICA AMERICANA*

By ALEXANDER WETMORE

WITH ONE PHOTO

ABNORMAL birds' eggs are of more or less common occurrence and have been of interest to the collector because of their oddity, but seldom has there been anything known concerning them that might explain their peculiarities.

On May 29, 1916, while passing through an area known as the Old River Channel, in the delta of Bear River, Utah, a commotion in the aquatic growth at one side attracted attention. Going over, I found an adult Coot caught under water and nearly drowned in long strands of the potato moss (*Potamogeton pectinatus*). On taking it up I found that it had only one foot, and this explained its inability to escape. The bird soon recovered and was tied and placed under some rushes in the bow of the boat along with other captives. This happened about nine o'clock in the morning. At noon the bird was given opportunity to drink, and about four in the afternoon it was placed in a pen where it had access to the river. The following morning I found to my surprise that the bird had laid an egg that was strikingly abnormal in color. Though I have examined many hundreds of Coots' eggs, I have never seen any at all resembling it.

The ground color of this egg is between pale smoke gray and light mineral gray[1], with the larger end washed with avellaneous. Small spots of bone brown that stand out rather prominently, larger and more abundant about the large end, are scattered over the surface. About the larger end are many blurred confused spots of purplish gray. These markings are found over the rest of the surface and vary in places to light purplish gray. The texture of the shell under a hand lens is seen to be similar to that of other Coots' eggs.

This egg is abnormal, then, in having a greenish gray ground with a concentration of heavier markings about the larger end. It has absolutely no resemblance to ordinary Coots' eggs, and no one who has examined it has recognized it. In general it resembles somewhat certain shore-birds' eggs, while it has a sug-

[1]Ridgway, Color Standards and Nomenclature, 1912.

gestion of pale eggs of the crows. In the accompanying photograph (fig. 24) a normal Coot's egg is shown along with the one just described. Careful scrutiny will serve to bring out some of the oddities that have been mentioned. The difference in size and shape between the two is normal and within the range of individual variation. As for the cause of this abnormality, it may be attributed to continued excitement and fear and their reactions through the nervous system upon the ordinary functions of the oviduct.

Washington, D. C., January 22, 1917.

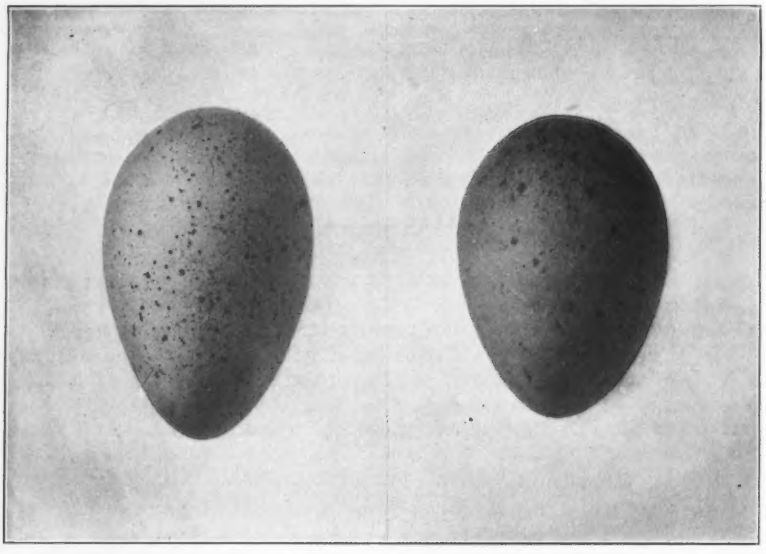


Fig. 24. NORMAL EGG OF COOT AT LEFT; ABNORMALLY MARKED SPECIMEN AT RIGHT. *Natural Size.*

NAMES OF WRITERS ON CALIFORNIA BIRDS

By T. S. PALMER

IN THE BIBLIOGRAPHY of California Ornithology[1], published in 1909, Joseph Grinnell has brought together nearly 1800 titles of publications on the birds of California and has indexed them under authors, local lists, and species, so as to facilitate ready reference to each paper or note. This Bibliography compares favorably in accuracy and completeness with any ever published in this country.

The Index to Authors includes the names of about 350 individuals. More than two thirds of these names are complete, but in 107 cases it was found impracticable to give the names in full. It seems highly desirable to complete these names while it is still possible to obtain the necessary data, in order that

[1]Pacific Coast Avifauna, No. 5, pp. 1-166.

the full names of those who have published on the birds of the state may be placed on record. As a contribution to this work the following list containing the names of 57 authors—52 in full and 5 in part—has been prepared in the hope that some of the 50 names still incomplete may be supplied by others who may happen to have the desired information.

The years following each name indicate the dates of the author's publications as indexed in Grinnell's Bibliography, dates in parentheses the years of birth and death, and names in brackets those which are seldom used.

Anderson, Dr. Charles Lewis, 1892
Bagg, Sherman, 1894
Bell, Howard W., 1890
Bickford, Elmer Leonard, 1904, 1905
Bliss, Walter D., 1893
Bolle, Carl, 1857
Brokaw, Louis Westen (1875-1897), 1893, 1895, 1898
Burt, Homer C., 1905
Canfield, Colbert S., 1869
Chambers, Vactor Tousey (1830-1883), 1876
Cooper, William Alvord, 1878, 1879
Denton, Shelley Wright, 1884
Des Murs, [Marc Athanese Parfait] OEillet (1804——), 1855
Edmiston, Joseph L., 1885
Farnham, Thomas Jefferson, 1852
Flint, William Clement (died 1891), 1884
Gunn, Charles William (?), 1885
Hartert, Ernst [Johann Otto], 1892, 1897, 1900
Hatch, Philo Luois (1823-1904), 1897
Holmes, Frank Henry, 1897, 1899
Hutchings, James Mason, 1856
Jackson, Charles Thomas (1805-1880), 1866, 1868
Jewett, Stanley Gordon, 1905
Johnson, Frederick Orson, 1889, 1891, 1892
Jones, John Matthew, 1850
Kennerly, Dr. Caleb Burwell Rowan, 1859
Kneeland, Samuel, 1871
Kobbé, William Hoffman, 1901, 1902
Koch, Frederick William, 1892, 1893
Lefler, Charles Horace, 1895
Lilliencrantz, Tod ['T. L.'], 1888
Lockington, William Neale (1842?-1902), 1878
Marr, Cyril, 1885
Milet de Mureau, Baron Louis Marie Antoine Destouff de (1756-1825), 1797
Nettleton, Charles Philip (deceased), 1894
Noack, Harry Richard, 1902
Nodder, Frederick Polydore (——1800?), 1797
Nordhoff, Charles Bernard, 1902
Norris, Joseph Parker (1847-1916), 1886-1888, 1890, 1891
Palmer, Ethan De Lay, 1894
Parker, Harry Green, 1886
Peck, George Delrane, 1904
Reed, Chester Albert (1876-1912), 1904
Salvadori, Count Tommaso [Adlard], 1893, 1895
Shields, Alexander McMillan, 1884-1886, 1888, 1894, 1895, 1899
Slevin, Thomas Edwards (1871-1902), 1899
Stejneger, Dr. Leonhard [Hess], 1885, 1886
Streator, Clark Perkins, 1886, 1888, 1891
Studer, Jacob Henry, 1897
Taylor, Alexander Smith (1817——), 1855, 1859
Van Dyke, Theodore Strong, 1886, 1897
Vrooman, Albert George, 1901, 1905
Watkins, Lucius Whitney, 1898
Willard, John Melville, 1897, 1899, 1901, 1902
Wueste, Rudolph Charles, 1902
Wyatt, Claude Wilmott (1842-1900). 1894
Zahn, Otto Johann, 1895

Washington, D. C., December 24, 1916.

FROM FIELD AND STUDY

The Number of Species and Subspecies of Birds in Texas.—In view of recent comparisons of the lists of birds known from the various states of the United States, a note concerning the number of species in Texas may be of interest. Texas is by considerable the largest state in the Union, and this great size together with its peculiarly intermediate geographic position naturally lead us to expect a large and varied avifauna. Nor does this expectation fail, for the list of birds now known is decidedly larger than that of any other state, amounting to 605 species and subspecies. Of these, 310 are permanent residents, that is, they occur during both summer and winter at some place within the boundaries of the state, though several of them do not, so far as known, breed within its boundaries. There are 78 summer residents, which are species found during the summer at some locality in the state, though not necessarily breeding, but which do not pass the winter here. Winter residents, including all those that occur at this season in only one locality, number 138; transients 42; casual visitors 23; and accidental visitors 14.—HARRY C. OBERHOLSER, *Bureau of Biological Survey, Washington, D. C., January 6, 1917.*

A New Record for California.—On December 4, 1910, I secured a male specimen of the Savannah Sparrow (*Passerculus sandwichensis savanna*). The bird when shot was clinging to some dry grass stalks growing in a swampy meadow enclosed by dikes. This field, formerly open salt marsh, is near the north end of Woodley Island, Humboldt Bay, California.

Mr. J. Grinnell examined this sparrow in 1911 or 1912, and again in the fall of this year, 1916, pronouncing it to be *Passerculus s. savanna.* Mr. Grinnell wrote to me that, as far as he was aware, the Savannah Sparrow constitutes a new subspecies for the state.—C. I. CLAY, *Eureka, California, December 25, 1916.*

The Hooded Merganser in Stanislaus County, California.—Like many other species of wild fowl this interesting bird (*Lophodytes cucullatus*) is becoming scarcer on the Pacific Coast, and while still noted in some places it is seldom seen by most of us. In fact it is something like thirty years since one has appeared within my horizon. Hence it was a matter of surprise and pleasure to note a female of this species at the Rancho Dos Rios, Stanislaus County, California, on October 26, 1916. There was but a single individual, feeding near a small bunch of Coots in a slough of seepage water, something like a mile from the Tuolumne River.—JOSEPH MAILLIARD, *San Francisco, January 17, 1917.*

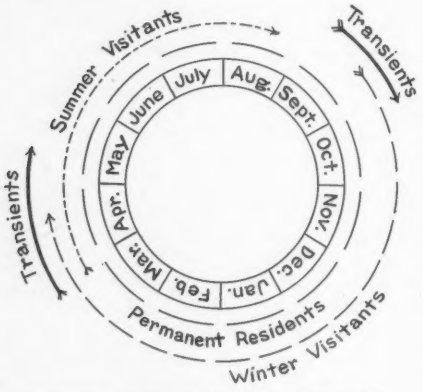


Fig. 25. A DIAGRAM FOR ILLUSTRATING THE SEASONAL SHIFTING OF THE BIRD CALENDAR.

A Diagram for Illustrating the Seasonal Shifting of the Bird Calendar.—Those who are concerned with teaching ornithology find frequent need for devices of one sort or another which will aid in conveying ideas. Diagrams on charts or lantern slides may often be used to advantage. The one here given is very likely to have been thought of by other teachers, and even published somewhere, though I do not recall having run across it myself. It is intended simply to show the composition of the bird-life of a locality, at any one period of the year, by *seasonal categories.* There are four of these: Permanent Residents, Summer Visitants, Winter Visitants, and Transients. The portion of the annual cycle in which each is present is shown; and it becomes possible to demonstrate the categories present in each one of the months. Thus, in January there are only the Permanent Residents plus the Winter Visitants; and in April all the categories are present.—J. GRINNELL. *University of California, Berkeley, February 13, 1917.*

Notes on the Arizona Spotted Owl.—Two specimens of *Strix occidentalis lucida* were taken by Mr. E. J. Hands, October 2, 1915, at about 6500 feet altitude in Pinery Canyon, west slope of the Chiricahua Mountains, Cochise County, Arizona. They were male and female, and sitting huddled close together on a fir limb. The male, Mr. Hands reports, was a little darker than the female, which is now no. 4441, collection of J. E. Law. These are the first birds of this species noted by Mr. Hands and his brother, John Hands, in the thirty years they have spent in these mountains as miners and rangers.

Compared with six specimens of *S. o. occidentalis* from southern California, five from Los Angeles County (no. 494, coll. C. H. Richardson; nos. 1392, 1393, 1395, coll. G. Willett; no. 1477, coll. J. E. Law), and one from Ventura County (no. 830, coll. G. Willett), this female has very nearly the same tone of brown dorsally, though nos. 1392 and 1393 are slightly darker on hind neck, but the light transverse bars of remiges and rectrices are conspicuously broader and whiter. The southern California birds have these bars decidedly buffy. The chest of the Arizona bird has conspicuous broad white bars, giving predominance to the white coloration, in striking contrast to the California birds which have the brown decidedly predominating on the chest. In the Arizona bird the legs are slightly paler than in all the California specimens but no. 1477, and the under side of tail (remiges) again has the white predominating as against the buffy of *occidentalis*.—J. E. Law, *Hollywood, California, January 25, 1917.*

Two Albino English Sparrows.—In the museum collection of the Colorado State Agricultural College are two specimens of albino English Sparrows (*Passer domesticus*). One was taken at Fort Collins, June 15, 1915, the other at Las Animas, January 5, 1917. Both are males, the Fort Collins specimen being an immature bird. Both birds are pure white, none of the feathers showing any trace of the normal colors; eyes are pink, and bills, legs and feet, flesh-color.—W. L. Burnett, *Colorado Agricultural College, Fort Collins, Colorado, January 10, 1917.*

Is the California Woodpecker a Tippler?—I once read that woodpeckers sometimes become intoxicated from drinking the fermented sap of certain trees. I had thought that this might be only a dream of the "nature fakirs", but I have since seen something which leads me to suspect that the tale may have a foundation in fact. In October, 1911, I found a California Woodpecker (*Melanerpes formicivorus bairdi*) on the banks of the Sacramento River a few miles below Red Bluff, which gave every evidence of being drunk. It could use its wings for flight to a certain extent but could not steer a straight course in the air, and soon fell to earth again when it tried to fly. On the ground it tried to escape with uncertain sprawling motions. I captured it and could find no injury though I examined it with some care.—W. A. Squires, *San Francisco, January 25, 1917.*

Concerning two forms of the Bryant Marsh Sparrow in California.—The remarks of W. A. Squires, in the November-December number of The Condor, upon the possibility of there being two forms of *Passerculus sandwichensis bryanti* in the vicinity of San Francisco Bay should bring out some observations or records from other parties, and it is to be sincerely hoped that this will be the case. The question is an interesting one, and there seems a great likelihood that there really are two forms nearly alike but of different habits. I have taken specimens of what I supposed was *bryanti* at different times and places high up on hills and ranges, but, except for the one mentioned in the notes from Humboldt Bay, have never taken any at a high elevation *in the height* of the breeding season, although a few were taken at dates very close to it. These latter were supposed to be wanderers or non-breeders at the time, but recent events make me doubt this conclusion.

In our collection is a set of eggs, taken by C. A. Allen, at that time living at Nicasio, Marin County, California, the data of which are as follows: "Western Savannah Sparrow. Black Mt., Marin Co., Calif., Apr. 29, 1877. Eggs fresh. Nest on ground. Male shot. Nest on top of Mountain". This is not the exact wording of the data but is the essence of it. We did not see the parent of this set, and have always been very skeptical concerning its identification or connection with the nest, but have kept the set in abeyance all this time. It looks now as if Allen might have been close to the truth, and that the bird was this possible upland form. As Allen sold all his skins at that time,

this one is probably reposing in some eastern collection, and, if this note comes to the attention of any one who bought skins from him as far back as that, I will esteem it a great favor if he will look the matter up and let me know. Very likely this specimen is stowed away in some corner of the Biological Survey or National Museum in Washington, D. C. Meanwhile this is an interesting matter open to all observers, and this coming spring will be a fine time to commence special investigations upon the question. The Black Mountain mentioned is rather an isolated peak, probably about 2000 feet high, three or four miles north of Point Reyes Station, mostly bare on the southerly and easterly sides and on top.—JOSEPH MAILLIARD, *San Francisco, January 17, 1917.*

The Arctic Horned Owl in the State of Washington.—Positive records of the Arctic Horned Owl (*Bubo virginianus subarcticus*) for Washington are so scarce that it would seem advisable to mention all new ones in which the identity is certain. It may, consequently, be of interest to know that a very fine one was recently in the possession of Mr. Fred Edwards, of Tacoma. It was taken at Skagit, Skagit County, Washington, and on account of its large size I should say that it is in all probability a female. Mr. Edwards is uncertain regarding the exact date of its capture, but thinks it was in the winter of 1902.

The horned owls taken during the winter in Washington show such a wide range of variation that some might easily pass for *subarcticus* were it not for the more or less distinct bars of dusky on the feathers of the legs and feet. The specimen under discussion is one of the lightest in color that I have ever seen, the markings being paler than in many specimens of the Snowy Owl.—J. H. BOWLES, *Tacoma, Washington, January 17, 1917.*

An Invasion of California by the Eastern Goshawk.—Three Goshawks were received at the California Museum of Vertebrate Zoology during the past autumn, each of which I have identified as belonging to the subspecies *Astur atricapillus atricapillus*, thus adding a new name to the state list of birds. The data accompanying these specimens is as follows:

No. 27135, Mus. Vert. Zool.; male adult; Jamestown, Tuolumne County, California; November 21, 1916; shot by Frank Bambauer; presented to the Museum by Geo. W. Smith; prepared by H. S. Swarth (orig. no. 10524); weight, 793 grams; total length, 542 millimeters; spread of wings, 1600 mm.; iris, red; feet and tarsus, pale greenish yellow; bill, from cere forward, black, basally bluish; cere, pale greenish yellow (colors recorded at least two days after the death of the bird); stomach empty.

No. 27136, Mus. Vert. Zool.; male adult; Laytonville, Mendocino County, California; November 22, 1916; secured and presented to the Museum by Frank C. Clarke; prepared by H. S. Swarth (orig. no. 10526); weight, 905.5 grams; total length, 566 mm.; iris, red; stomach contained remains of a chicken about one-third grown (the hawk was shot as it dashed among poultry).

No. 27603, Mus. Vert. Zool.; male adult; 2 miles south of Palo Verde, Imperial County, California; November 2, 1916; collected by Leo Wiley (orig. no. 241).

The characters of the above three birds, by which they uniformly differ from the ordinary Western Goshawk (*Astur atricapillus striatulus*), lie in the general paleness of coloration. This, analyzed, consists in ashy tone of upper surface (dorsum slate-gray [of Ridgway, 1912], instead of dark neutral gray, as in *striatulus*); markings everywhere beneath, paler and narrower; streaks on throat and chest, mere lines, not more than one millimeter in width, mostly less (one to three millimeters wide in *striatulus*); flanks notably more lightly barred than in *striatulus*. In all these characters the three birds designated agree accurately with specimens from the eastern United States and from northeastern Alaska, these latter being unquestionable *atricapillus*. All other birds examined from California, Oregon and southeastern Alaska are *striatulus*.

Reports of the capture or observation of fully twenty-five other Goshawks have come in this winter from various localities from one end of the state to the other. Where age has been specified, only adults are concerned; no birds-of-the-year have come to notice. The present announcement, of the occurrence of *atricapillus* in California, at once brings doubt as to the subspecies involved in all previous winter records of Goshawks for the state. *Striatulus* is evidently the breeding bird in the Canadian zone within the

state; there are summer specimens at hand to prove it. It is quite likely that birds of this relatively resident race scatter out over the lower territory to a greater or less extent in winter; and thus it may be that all of the Goshawks recorded (rather rarely) in usual years, and some of the Goshawks this year, belong to the race *striatulus*. But there is good ground for suspecting that there has been the past winter an invasion of California (and probably most other western states) by the extreme northern and eastern race, *atricapillus*, and that such an invasion is of very infrequent occurrence.

In the *Auk* (XXXIV, 1917, pp. 87-88) C. D. Bunker reports that a "flight" of "American Goshawks" has visited Kansas the past fall; from October 27 to November 20, 1916, nine specimens were brought in to the Museum of the University of Kansas. The coincidence of these dates with those of the California-taken specimens is noteworthy.

In this connection, this year's invasion by the Snowy Owl into northern California is also of interest (see Bryant, *Calif. Fish and Game*, III, 1917, pp. 37-38). It is possible that the Eastern Goshawks and the Snowy Owls came from the same summer home, and that their unusually extended autumnal exodus was due to the same cause. This cause may be supposed to have been a lessening supply of food (rodents and birds) succeeding a period of plenty when the owl and hawk population had augmented above its normal. —J. GRINNELL, *Berkeley, California, February 13, 1917.*

Del Norte County Bird Notes.—August 13, 1916, proved not a day of evil omen, the 13th, but rather a most pleasant one, and producing interesting notes. Through the kindness of Martin Lund, the well known diver, who was looking for lost treasure claimed to be on the "Brother Jonathan" when she sank off Point St. George about fifty years ago, I was placed by those on his launch on Castle Island, off Point St. George and three miles north from Crescent City.

Despite the fact that eighteen head of sheep roam over the broken flat on the north slope, the Kaeding Petrel (*Oceanodroma kaedingi*) is nesting there to the number of a thousand or more, and often their burrows are dug right in the sheeps' trails. On the steep crags to the north and oceanwards I counted forty-three nests of the Baird Cormorant (*Phalacrocorax p. resplendens*) from one position. The Tufted Puffin (*Lunda cirrhata*) was nesting, in colonies and scattered pairs, in suitable places along the rim of the hundred foot bluff.

The top of Castle Island is accessible only at the northeast end and towards the mainland. It covers several acres, reaching its highest point at the southwest, where a row of pinnacles forms a barren ridge, the nesting site of numerous Western Gulls (*Larus occidentalis*). Nests of cormorants, puffins and gulls all contained large young. From a number of gulls' nests, the young had flown, but those of cormorants and puffins contained birds in every instance. The petrels had nearly all left the nests.

At the landing the water was dotted with exposed rocks, several rising some thirty feet high, the largest a continuation of the main island that could be reached by jumping from boulder to boulder at low water. At the water's edge, on the main rock and on the one just mentioned, I found two nests of the Pigeon Guillemot (*Cepphus columba*), each containing two large young. While I was sitting at the water's edge two Wandering Tattlers (*Heteractitis incanus*) quietly appeared through a crevice between the rocks, and stood erect eying me at a distance of exactly six feet.

While sitting in the same place where the tattlers had appeared, eating lunch and watching the California Murres (*Uria troille californica*) travelling between Castle Rock and the one at my back, I observed a flock of about a dozen turnstones fly by. Most interesting of all, though, were the actions of five Black Oyster-catchers (*Haematopus bachmani*). They sat close together on a nearby rock, alert, and with their occasional calls, accompanied by the sudden uplifting of the forward part of their bodies. When I moved the piping became more frequent, and when I arose and moved in the birds' direction, they circled about, alighting on a nearby rock, and again on the one from which they had flown.

Grinnell's "Distributional List of the Birds of California", gives Trinidad, Humboldt County, as the only locality in California where this species is known to occur north of the Farallon Islands and Point Reyes. Castle Island, off Point St. George, is probably the northernmost rock of any size on the California coast, so the birds I saw probably hold the northern record for the state.—C. I. CLAY, *Eureka, California, December 25, 1916.*

THE CONDOR

A Magazine of Western Ornithology

Published Bi-Monthly by the Cooper Ornithological Club

J. GRINNELL, Editor

HARRY S. SWARTH, Associate Editor

J. EUGENE LAW
W. LEE CHAMBERS } Business Managers

Hollywood, California: Published Mar. 15, 1917

SUBSCRIPTION RATES

One Dollar and Fifty Cents per Year in the United States, payable in advance.

Thirty Cents the single copy.

One Dollar and Seventy-five Cents per Year in all other countries in the International Postal Union.

COOPER CLUB DUES

Two Dollars per year for members residing in the United States.

Two Dollars and Twenty-five Cents in all other countries.

Manuscripts for publication, and **Books** and **Papers for Review,** should be sent to the Editor, J. Grinnell, Museum of Vertebrate Zoology, University of California, Berkeley, California.

Claims for missing or imperfect numbers should be made of the Business Manager, as addressed below, within thirty days of date of issue.

Cooper Club Dues, Subscriptions to **The Condor,** and **Exchanges,** should be sent to the Business Manager.

Address W. Lee Chambers, Business Manager, Eagle Rock, Los Angeles County, California.

EDITORIAL NOTES AND NEWS

Gilbert White, in his *Natural History of Selbourne,* wrote under date of September 14, 1770: "Monographers, come from whence they may, have, I think, fair pretense to challenge some regard and approbation from all the lovers of natural history; for, as no man can alone investigate all the works of nature, these partial writers may, each in their department, be more accurate in their discoveries, and freer from errors, than more general writers; and so by degrees may pave the way to an universal correct natural history." Which is to say, welcome the specialist, who is most likely to furnish *accurate* information.

Examination of a number of local lists in several of the current ornithological magazines reveals a regrettable looseness in the matter of recording facts of avian occurrence. It would seem superfluous to emphasize the necessity of giving *exact dates of both the first arrival and average arrival,* of species, and similarly with departures. Such phrases as "first of March" and "latter part of February" have relatively little value. If the notes given in local lists are to prove worthy to be gathered together for basis of generalizations in the future, they must provide definite as well as truthful statements of fact.

As one reads current literature in ornithology he frequently encounters articles in which the author has evidently made little or no effort to post himself in regard to the previous literature pertaining to his subject. Nothing seems more depressing than to find an author launching supposedly new facts, when the same ground may have been covered, and perhaps much better, by some student not so very long before. New forms of birds, even, have been described without reference to previous systematic discussions in the same group. Comments are made with naivete, which certainly will not reflect credit upon the authors as their work comes to take its place in perspective with the passage of time. The moral of all this is that prospective authors should go through at least the more important indexes relating to their region (if faunal work is contemplated) or subjects. The indexes available, annual and periodical, for *The Auk* and *The Condor,* should be habitually appealed to, as well as the chief general works on ornithology.

Through the energetic efforts of Mr. C. B. Lastreto and other bird students of the San Francisco Bay region there has recently been formed an "Audubon Association of the Pacific" with headquarters in San Francisco. On Friday evening, February 2, permanent organization was effected, a constitution and by-laws adopted, and officers elected. Mr. C. B. Lastreto is President, Mr. W. A. Squires, Secretary, and Mr. Harold E. Hansen, Treasurer. The Association begins with a good strong charter membership and expects to be active along the lines usually followed by Audubon societies. Information may be secured from the Secretary, Mr. W. A. Squires, 3852 Twenty-third Street, San Francisco.

The second annual meeting of the Pacific Division of the American Association for the Advancement of Science will be held this year at Stanford University during the period from April 4 to 7. It is planned that Cooper Club representatives be present and take an active part in those sessions where topics of an ornithological nature can be considered. One feature which promises more than ordinary interest is the zoological field trip scheduled for Saturday, April 7. Professor J. O. Snyder will be in charge of this, and of course birds will receive a large share of attention. If it proves not feasible for any Cooper Club member to attend the entire meeting, special effort should be made to take in at least this one day's field trip. In this connection, it is to be pointed out that the Cooper Club is an organization affiliated with the Pacific Division, and Club members can still join the American Association under the advantageous conditions obtaining last year.

COMMUNICATION

To the Editors of THE CONDOR:

From the standpoint of the rarer birds, one of the greatest desiderata is a League for the Extermination of Amateur Ornithologists. I do not mean mere bird-lovers or "bird-chasers"—in *their* increase lies the birds' best hope—nor the professional ornithologist, who is a necessary minor evil. I refer to the man who collects bird-skins or eggs as a boy collects stamps; who is sure death to any rare bird that crosses his path, because he wants it either to complete his set or to trade. This includes the "no specimen, no record" man, who will sacrifice anything that flies for the satisfaction of clinching his claim to an unimportant record. It goes without saying that the ban should cover that noxious by-product of the accumulating instinct, the collector for revenue only, who ethically occupies a far lower position than the ordinary market hunter. I know, of course, that the number of birds and eggs that the amateur destroys is small in comparison with those that fall victims to natural agencies, but the latter are not supposed to be open to conviction.

Moreover, in the case of a rare bird, the collector becomes a relatively far more important influence in the process of extermination; and where a declining species is undergoing a sectional re-adjustment to changed conditions, he may well be the factor that turns the scale toward extinction.

So it is to be hoped that in the near future the man who collects bird-skins or eggs for private gratification or gain will be classed with the plume-hunter and be banished from respectable ornithological society.

To the hardened collector, this will of course seem like idle chatter, but it is written with the hope that it may appeal to some who are not too far gone in evil ways.

Yours sincerely,

H. GIFFORD,

Omaha, Nebraska, January 5, 1917.

[The above does not, of course, in any degree represent the views of the Editors of THE CONDOR. We give it space for the reason that it well represents the particular angle of view of the extreme bird-protectionist, the person whose field of vision is narrowed until he can see optimum good only in the conservation of each and every *individual* bird. He does not seem to realize that with the extermination of the *amateur* ornithologist, *scientific ornithology is doomed to die out inside of one generation!—Editors.]*

PUBLICATIONS REVIEWED

THE BIOLOGICAL SURVEY BIRD ENUMERATIONS.—The United States Biological Survey has recently issued its "Second Annual Report of Bird Counts in the United States, with Discussion of Results."[1] This has to do with the season of 1915. The method of securing data was practically the same as used in 1914, and upon which the "preliminary report" (Bulletin 187, U. S. Dept. Agric.) was based. A circular of detailed instructions was issued to those persons who responded to the general call for volunteer observers. A total of 315 reports for 1915 was received, covering every state in the Union except Utah and Nevada.

In summarizing, emphasis is placed upon the concordance of results of the 1915 enumeration with those of 1914. This would appear to establish an average, in the northeastern United States, of 124 breeding pairs of birds on the average farm of 108 acres. The censuses further indicate that there is an average smaller number of birds per unit of area throughout the region west of the 100th meridian than there is in the eastern states; but no exact numerical statement is yet attempted.

Increase in bird population is observed on those farms or grounds where special pains have been taken to provide increased food, shelter, and protection from enemies.

One feature of the present Report is to be regretted, namely the citation of a census, of dubious authenticity, contributed by some person, not named, from "near Gilroy, Cal." The area treated is comprised in a single farm of 38 acres, and this area is reported as having supported, in 1915, 176 breeding pairs of birds, of 34 species. The species are named, with the result that the reader is invited to believe that the "Western Winter Wren" and "Western Blue Grosbeak" were there breeding side by side, as also the "Allen Hummingbird" and "Pacific Nighthawk"!

These and several other obvious blunders in determination cannot help but bring suspicion upon the whole list; if such carelessness be displayed in reporting species, how can reliance be placed upon the enumeration?

It is this thing that we would call attention to, as a danger incurred in the *Biological Survey method of gathering data:*

[1] *Bulletin No. 396, United States Department of Agriculture* (Contribution from the Bureau of Biological Survey). By Wells W. *Cooke. October 23, 1916. Pages 20.*

namely, acceptance of data from non-authoritative sources. It goes without saying that the validity of any wide generalization depends upon the soundness of the mass of facts upon which such generalization be based. The testimony of casual field observers must be uncompromisingly *excluded*, until it be known that they are *qualified to furnish authentic information*. This, we realize, will mean a departure from the custom heretofore prevalent in many countries where data is being assembled on bird migration and distribution. But, in the interests of scientific exactitude, some such rule must be followed rigidly, if a high standard of output is to be striven for.

There can be no doubt that extensive accumulations of statistical data bearing on bird population, and its modifying influences, are greatly worth while. Inferences of wide economic importance are sure to come. And of all the institutions now in existence, only a Government Bureau can be expected to handle an undertaking of such magnitude. Our adverse comments, as above, apply only to a detail of method.—J. GRINNELL.

CONSERVATION OF OUR | WILD BIRDS | METHODS OF ATTRACTING | AND INCREASING THE NUMBERS OF USEFUL | BIRDS AND THE | ESTABLISHMENT OF SANCTUARIES | By | BRADFORD A. SCUDDER | ... | Issued by the | Massachusetts Fish and Game | Protective Association | 748 Tremont Building | Boston: 71 pp., illustrated. Price 50 cents. Our copy received October 30, 1916.

During recent years there has been a great deal written on the conservation of wild life, but only a small proportion of the books and papers which have appeared have dealt with the subject in a concrete manner and given definite and usable information. The present paper is distinctly practical. It describes in an authoritative yet simple manner some of the means which can be used in Massachusetts for "attracting and increasing the numbers of useful birds".

Following the brief "Introduction" in which are set forth the several ways in which birds are useful to man, the causes of their decrease and the means which have been used to conserve them, the following subjects are considered, a chapter being devoted to each: "Birds that we should encourage to nest about our country homes", "Nesting boxes", "Nesting houses", "Bird baths", "Winter feeding of birds", "Berry and seed bearing trees and shrubs", and "Enemies of wild birds". Finally there is a "Bibliography of works pertaining to birds and the out-of-doors".

The pamphlet should prove useful to bird lovers in the New England states and has something of value, in suggestions at least, for western students.—TRACY I. STORER.

MINUTES OF COOPER CLUB MEETINGS

NORTHERN DIVISION

NOVEMBER.—The November meeting of the Northern Division was called to order by Vice-president Carriger, at 8 P. M., November 16. As the Secretary was late, business was deferred and Dr. Grinnell was introduced. He gave a most interesting talk on "Birds and Bird People of San Bernardino". The personel of the new branch of the Cooper Club, which is being organized in San Bernardino, with their varied interests and abilities, was no less interesting than the account of the birds of the cactus and sagebrush belts of Reche Canyon. No doubt the future work of the branch will command much attention.

After some discussion of Dr. Grinnell's paper, the business of the evening was dispatched. The minutes of the October meeting of the Northern Division were read and approved, and those of the Southern Division were read. Mrs. Frances Webster Fish and Mr. Frank J. Steinmetz were elected to membership, and several proposals from the Southern Division were read.

About thirty members and visitors were present, among whom were Messrs. Grinnell, Bryant, Carriger, Evermann, Hansen, Swarth, Wright, Cohen, Dixon, Stone, Ray, Heinemann and Kendall; Mesdames Grinnell, Newhall, Knappen, Ferguson, Swarth, Sweezy, Schlisinger, Parsons, Fish, Allen and Wythe. Miss Ferguson, Mrs. Newhall, Mr. Schlisinger, Mrs. Ray and Mr. Thomas were among the visitors.

Several items of interest with regard to birds were presented: a Florida Gallinule was reported as wintering in Golden Gate Park, by Mr. Hansen; a Townsend Solitaire has been seen repeatedly on the University Campus by Miss Wythe; a beautiful specimen of a Snowy Owl just received at the Museum from Del Norte County, California, was exhibited by Mr. Bryant. Instances of nesting Valley Quail becoming very tame, and also of others nesting in trees, were related and discussed.

The meeting adjourned for informal discussion.—AMELIA S. ALLEN, *Secretary*.

DECEMBER.—The regular meeting of the Northern Division was called to order December 21, 1916, at the Museum of Vertebrate Zoology. President Storer was in the chair, with the following members present: Messrs. Davis, Grinnell, Mailliard, Storer, Squires, Hansen, Lastreto, Bryant, Carriger, Swarth, Wright, Dixon; Mesdames Meade, Schlisinger, Grinnell, Bryant and Allen. Mr. Schlisinger, Mr. Meade and Mr. Kellogg were present as visitors.

After the reading of the minutes of the Northern and Southern Divisions, Dr. Hummill and Mrs. Foster Elliott were elected to membership, and five names were proposed, four from the minutes of the Southern Division and one, Miss Emma W. Ward, Alameda, proposed by Donald Cohen.

A letter from Mr. A. L. Barrows, Secretary of the Pacific Division of the Association for the Advancement of Science, asking that the Cooper Club be represented on the program of a meeting to be held at Stanford University, was referred to the Executive Committee.

The nomination of officers for the year 1917 was then called for by the President. Dr. Barton Evermann was nominated for president by Mr. Joseph Mailliard; Rev. W. A. Squires, for vice-president by Mr. Carriger, and Mrs. J. T. Allen for secretary by Dr. Grinnell.

Mr. Joseph Mailliard, who attended the meeting of the American Ornithological Union at the Academy of Sciences at Philadelphia, gave so vivid an account of the meetings of the Union and of his visits to Philadelphia, New York and Washington, that those present felt that they had a part in all his experiences. After considerable informal discussion a giant goose was exhibited by Mr. Bryant, and the meeting adjourned.—AMELIA S. ALLEN, *Secretary.*

SOUTHERN DIVISION

DECEMBER.—The regular monthly meeting of the Southern Division was held at the Museum of History, Science and Art. Vice-president Law presided, and the following members were present: Messrs. Chambers, Daggett, Holland, Lamb, Law, Tallman, Willett and Wyman. The minutes of the November meeting were read and approved.

The following persons, whose names were presented at the previous meeting, were elected to membership: Mrs. Mabel R. O'Farrell, San Diego; C. Oscar Reis, Los Angeles; Robie W. Tufts, Wolfville, Nova Scotia; Roscoe Ivan Giles, Marlborough, Mass.

New names were presented, as follows: Jas. Moffitt, San Francisco, by John Mailliard; James A. Calder, Buena Park, Calif., by John McB. Robertson; Mrs. Victor Culberson, Fierro, N. M., by J. Stokely Ligon; Miss Alice Edward Pratt, San Diego, by W. L. Chambers; Rudolph Martin Anderson, care of Geological Survey, Victoria Memorial Museum, Ottawa, Canada, by W. L. Chambers; Mrs. Fred J. Loel, San Jose, Calif., by W. L. Chambers; Lew Ward Hudson, Selma, Calif., by J. G. Tyler.

No members of the nominating committee being present, the annual election of officers was postponed till the January meeting. A letter from A. L. Barrows, Secretary of the Pacific Division of the Association for the Advancement of Science, relative to a special assessment of five dollars, against the Club, for the support of the Division, was read, but no formal action taken.

Mr. Law gave an interesting account of the recent meeting of the A. O. U. in Philadelphia, which he attended, and told of seeing several of the important collections in the eastern states, and of ornithological investigations going on in that part of the country. Adjourned.—L. E. WYMAN, *Secretary.*

JANUARY.—Regular monthly meeting of the Southern Division was held at the Museum of History, Science and Art. President Miller presided, with the following members in attendance: Messrs. Brown, Bishop, Chambers, Dickey, Hanna, Huey, Holland, Layne, Little, Law, Moran, Rich, Rittenhouse, Wyman, and Mrs. Law. Mrs. Bishop, Mrs. Falger, and Mr. Reese were visitors.

Minutes of the December meeting were read and approved, followed by reading of the November and December minutes of the Northern Division.

On motion by Dr. Rich, seconded by Mr. Brown, the secretary was instructed to cast an electing ballot for the persons whose names were presented at the December meeting as follows: James Moffitt, San Francisco; James A. Calder, Buena Park; Mrs. Victor Culberson, Fierro, New Mexico; Miss Alice Edwards Pratt, San Diego; Rudolph M. Anderson, Ottawa, Ontario, Canada; Mrs. Fred J. Loel, San Jose; Lew Ward Hudson, Selma.

New names were presented as follows: Elmer Ufford, Oberlin, Kas., by Guy Love; Claten Osencup, Pasadena, by J. H. Richey; C. A. Thomas, Kennet Square, Pa., by W.

Leon Dawson. The resignation of Dr. John G. Sheafer was tendered and accepted.

The following resolution was read and ordered placed on file:

"In the passing of Dr. E. A. Mearns ornithology has lost a devotee of high rank. As an ornithologist Dr. Mearns was a tireless and thoroughly scientific worker, who published extensively the result of his labors. In his social life he was genial and warm-hearted, and left a host of friends who mourn his untimely end.

In recognition of his sterling qualities and scientific achievements, therefore, let it be resolved that we, the members of the Cooper Ornithological Club, hereby deplore his death as a distinct loss to science in general and to ornithology in particular."

In the absence of a report from the nominating committee, the chairman called for nominations from the floor. On motion of Mr. Brown, seconded by Mr. Holland, the outgoing officers were renominated. Dr. Bishop then moved that the secretary be instructed to cast a ballot re-electing these officers. Carried.

Mr. Law read a letter from Mr. Willett relative to the number of geese and ducks in the Sacramento Valley, suggesting that the bag limit on geese was too high. Dr. Rich moved that the Cooper Club go on record as favoring the reducing of the daily limit of geese to ten. Seconded by Mr. Law, and unanimously carried.

Business disposed of, Dr. L. B. Bishop favored the members with an instructive talk on the Blue-winged and Yellow-winged Warblers, and their hybrids. Mr. Hanna told of catching and photographing White-throated Swifts. Adjourned.—L. E. Wyman, *Secretary.*

INTERMOUNTAIN CHAPTER

December.—Meeting called at 8:15 P. M. by President Chambers. Members in attendance were: Dr. D. Moore Lindsay, J. A. Mullen, A. D. Boyle, J. Sugden, Sr., J. Sugden, Jr., Prof. J. H. Paul and A. O. Treganza. A. O. Treganza acted as secretary pro tem in the absence of Mrs. Treganza. Minutes of previous meeting were read and approved.

Business of evening was as follows: first, election of officers for the ensuing year. Dr. Paul was nominated to the presidency. J. Sugden moved suspension of by-laws and election by acclamation. Carried. Election of officers was as follows: President, Prof. J. H. Paul; Vice-president, Dr. D. Moore Lindsay; Secretary and Treasurer, A. D. Boyle; Editing Committee, J. Sugden, Mrs. A. O. Treganza; Program Committee, J. A. Mullen, A. O. Treganza.

Motion made by Prof. Paul that Investigation and Publicity Committee be changed to read Conservation and Publicity Committee. Carried.

Conservation and Publicity Committee, C. T. Barnes, Fred W. Chambers.

Motion made that the Club support a movement begun by the City Council to exterminate the English Sparrow, the work to be done by paid assistants, that other birds might not suffer. This was followed by an open discussion on the economic value of the sparrow, and the evident failure of the bird sanctuaries set aside within the city limits, due to its ever increasing numbers.

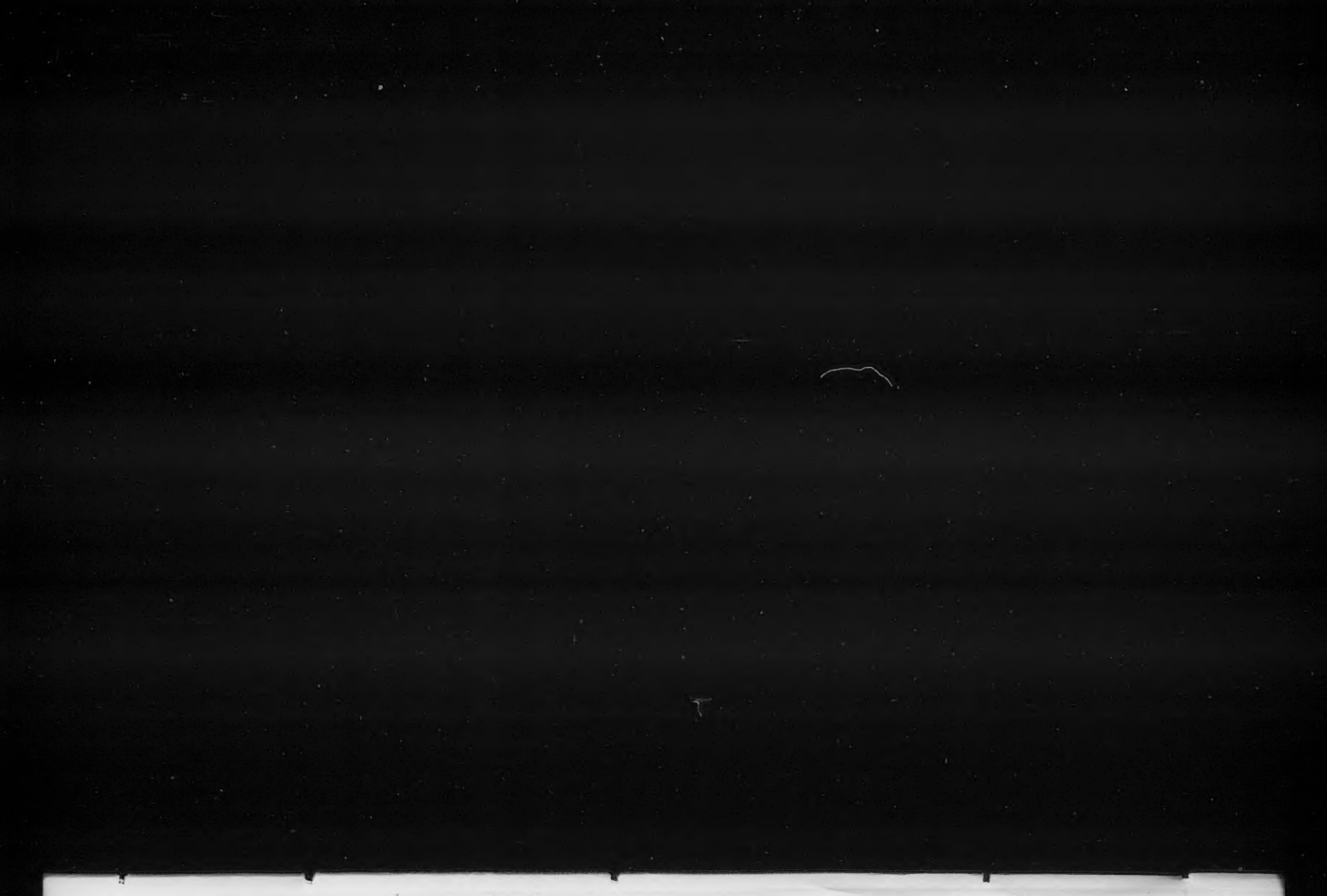
Motion made that the Club support Mr. Fred W. Chambers for re-appointment as a non-partisan Game Commissioner, inasmuch as he had commenced much creditable work that would fail under a political appointee.

Meeting adjourned at 10 P. M.—A. O. Treganza, *Secretary.*

SAN BERNARDINO CHAPTER

December.—The second informal meeting of the San Bernardino Valley section of the Cooper Ornithological Club was held on December 5, 1916, at the residence of Dr. C. G. Wiggins, Colton, California. No formal papers were read but the agreed subject for the evening was Hawks. Every member attending brought all specimens of hawks and their eggs owned by him, and the assembled collection was examined and studied, together with such information as each member could give regarding the various species with which he was most familiar. The greater part of the species inhabiting southern California were represented both by skins and eggs, so that a fairly complete account of them was finally presented. The collection of eggs from the cabinets of Messrs. Pierce and Edwards of Claremont was notable.

Those present were: Messrs. Edwards, Pierce and White from Claremont; Mr. and Mrs. M. French Gilman, and Mr. W. F. Gilman from Banning; Ed. Wall, San Bernardino; Mr., Mrs., and Miss C. G. Wiggins, J. R. Pemberton, Colton. It was unanimously agreed that the next meeting be held on January 9, 1917, at the same residence of Dr. Wiggins in Colton, and that the subject for the evening be Owls. Adjourned.—J. R. Pemberton, *Secretary.*



For Sale, Exchange and Want Column.—Any Cooper Club member is entitled to one advertising notice in each issue free. Notices of over ten lines will be charged for at the rate of ten cents per line. For this department, address W. LEE CHAMBERS, *Eagle Rock, Los Angeles County, California.*

WILL EXCHANGE Vol. I, no. 1, *Bird-Lore*, for Index for Vol. I and no. 4; or for Index and Vol. VI, no. 6; or for Vol. V, *Fern Bulletin*.—B. F. CASE, *Tolland, Conn.*

WANTED—For cash: The Flora of Washington, by C. V. Piper: Contributions U. S. National Herbarium, vol. 11.—WALTER P. TAYLOR, *1428 Perry Place, N. W., Washington, D. C.*

EXCHANGE—I want the following *Bird-Lores* with the Fuertes group plates: vol. 7, no. 1, vol. 9, no. 5; also the last five years of the *Auk*. Offer in exchange, large list of ornithological publications; N. A. Fauna series; rare Alaskan bird skins, or cash if necessary.—GEO. G. CANTWELL, *Puyallup, Wash.*

WANTED—"Common Birds of Town and Country", published by the National Geographic Society in 1915.—J. L. SLOANAKER, *Kalispell, Montana.*

BLUE-BIRD—Published in co-operation with The Cleveland Bird-Lovers' Association, and devoted to *Bird Study and Conservation;* $1.00 a year; 10 cents a copy; *Agents Wanted.* Address EDITOR BLUE-BIRD, *1010 Euclid Avenue, Cleveland, Ohio.*

I WANT one copy each of "The Blue Bird", vol. 6, nos. 1 and 2, published at Cincinnati, Ohio; edited by Dr. Eugene Swope.—W. LEE CHAMBERS, *Eagle Rock, Los Angeles County, California.*

WANTED—Good photos of any and all birds found in California, their nests, eggs, and nesting sites. Will pay cash or give good exchange in bird skins.—EDWARD WALL, *San Bernardino, California.*

FOR SALE—Photographs and lantern slides, plain or colored, of birds, nests and eggs, and flowers.—THOMAS H. JACKSON, *304 N. Franklin St., West Chester, Pa.*

FOR SALE—Complete files of *Condor* and *Bird-Lore;* also duplicates of *Auk*, vols. 7 to 30.—LAUREN TREMPER, *136 N. Dewey St., Philadelphia, Pa.*

WANTED—Good lantern slides of birds. I have a small exchange list of the same, or will pay reasonable cash price.—J. L. SLOANAKER, *Kalispell, Montana.*

PRICE LIST OF COOPER CLUB PUBLICATIONS

THE CONDOR

Vol.	I,	1899	"Bulletin of the Cooper Ornithological Club" - $.....
			No complete volume on hand; odd numbers only
Vol.	II,	1900	Complete, in parts as issued - - - - 5.00
Vol.	III,	1901	" - - - - - - - - 5.00
Vol.	IV,	1902	" - - - - - - - - 3.00
Vol.	V,	1903	" - - - - - - - - 2.00
Vol.	VI,	1904	" - - - - - - - - 2.00
Vol.	VII,	1905	" - - - - - - - - 2.00
Vol.	VIII,	1906	" - - - - - - - - 1.50
Vol.	IX,	1907	" - - - - - - - - 1.50
Vol.	X,	1908	" - - - - - - - - 1.50
Vol.	XI,	1909	" - - - - - - - - 1.50
Vol.	XII,	1910	" - - - - - - - - 1.50
Vol.	XIII,	1911	" - - - - - - - - 2.00
Vol.	XIV,	1912	" - - - - - - - - 1.50
Vol.	XV,	1913	" - - - - - - - - 1.50
Vol.	XVI,	1914	" - - - - - - - - 1.50
Vol.	XVII,	1915	" - - - - - - - - 1.50
Vol.	XVIII,	1916	" - - - - - - - - 1.50
Vol.	XIX,	1917	" - - - - - - - - 1.50

Odd numbers of any of above quoted on request.
Orders for advance volumes will be filled as issued.

PACIFIC COAST AVIFAUNA

No. 1, 1900 Birds of the Kotzebue Sound Region, Alaska; 80 pp. and map 75c
By J. GRINNELL

No. 2, 1901 Land Birds of Santa Cruz County, California; 22 pp. - - 25c
By R. C. McGREGOR

No. 3, 1902 Check-List of California Birds; 100 pp. and 2 maps - - .....
By J. GRINNELL

No. 4, 1904 Birds of the Huachuca Mountains, Arizona; 75 pp. - - 50c
By H. S. SWARTH

No. 5, 1909 A Bibliography of California Ornithology; 166 pp. - - $1.50
By J. GRINNELL

No. 6, 1909 Ten-Year Index to THE CONDOR; 48 pp. - - - - $1.00
By H. B. KAEDING

No. 7, 1912 Birds of the Pacific Slope of Southern California; 122 pp. $1.50
By G. WILLETT

No. 8, 1912 A Systematic List of the Birds of California; 23 pp. - - 50c
By J. GRINNELL

No. 9, 1913 The Birds of the Fresno District; 114 pp. - - - - $1.50
By J. G. TYLER

No. 10, 1914 Distributional List of the Birds of Arizona; 133 pp. and map $1.50
By H. S. SWARTH

No. 11, 1915 A Distributional List of the Birds of California; 217 pp. and 3 maps - - - - - - - $3.00
By J. GRINNELL

No. 12, 1917 Birds of the Southern California Coast Islands (in press) about 125 pages and map - - - - - - $1.50
By A. B. HOWELL

For Sale by W. LEE CHAMBERS, Business Manager
Eagle Rock, Los Angeles Co., California